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# IBM Cloud Provisioning and Management for z/OS: CICS Scenario

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Cloud

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International Technical Support Organization

# IBM Cloud Provisioning and Management for z/OS: CICS Scenario

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# Contents



 

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# Preface

In this IBM® Redbooks® publication, we show you a cloud services scenario on IBM z/OS®.

In the scenario, we show you how to perform the following tasks:

- Subscribe to a service to provision an IBM CICS® system.
- Assign resources to the CICS system.
- Use a template to tailor the CICS service
- Publish the service in our Marketplace
- Use that service to create a CICS region and start it.
- Deprovision the CICS region once it is no longer required.

We explain the basic terms that are associated with the cloud services and which roles play a part in creating, using, and maintaining a cloud service.

We show you how we used IBM z/OSMF to provision a CICS Transaction Server (TS) System Management Single Server (SMSS) in a controlled laboratory environment. This IBM Redpaper™ publication includes the following chapters:



**Note:** Our scenario uses pre-Generally Available (GA) levels of the software. The GA software might differ from our scenario because of other software refinement.

The goal of this paper is to provide you with an overview of how a cloud service can be created and used on z/OS. This paper is intended for infrastructure support staff and application development staff who require middleware to develop and maintain business applications that use middleware.

# Authors

This paper was produced by a team of specialists from around the world working at the International Technical Support Organization, Poughkeepsie Center.

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Thanks to the following people for their contributions to this project:

Gary Puckoff (z/OS New Technology, IBM) for leadership and guidance throughout the planning and writing of this paper.

Hiren Shah (z/OS Cloud Enablement  development team leader, IBM) for technical guidance and support.

Vaughn C Page (z Systems Software Engineer, IBM) for technical support and advice.

Ramon Bauza (z Systems Software Engineer, IBM) for configuration and set up support of the controlled environment.

Bob Haimowitz (DSG, IBM) for technical support and advice throughout this initiative.

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1

# Scenario introduction and basics

This chapter provides an overview of the scenario that is used in this IBM Redpaper publication and includes the following topics:

## 1.1 Preparation

If you are relatively new to clouds, z/OS, or CICS, we suggest consulting the resources that are described in this section to help increase your knowledge and expertise.

### 1.1.1 Prerequisite reading

If you are new to cloud provisioning and management, you gain a better understanding of this IBM Redpaper publication's content if you read the IBM Redpaper publication that is shown in Figure 1-1.

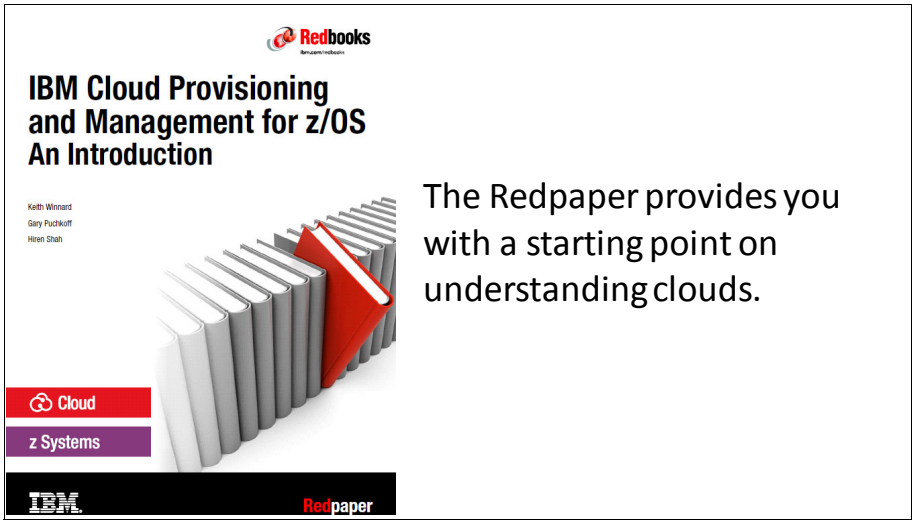


*Figure 1-1 Suggested prerequisite reading*

The IBM Redpaper publication can be downloaded from the following website:

`http://www.redbooks.ibm.com/abstracts/redp5416.html`

The IBM Redpaper publication includes the following topics:

- Defining and scoping cloud services on z/OS
- Cloud provisioning and management service positioning
- Adopting the cloud approach for z/OS

### 1.1.2 CICS information

We assume that you are familiar with CICS. However, if you want specific information about CICS, see the following CICS TS IBM Knowledge Center website:

`https://ibm.biz/BdXUWA`

## 1.2 Defining and scoping terms

In this section, terminology that is used throughout the scenario is introduced. The terms are divided into the following areas:

- Scenario roles
- Scenario terms
- Service activity areas

The *Marketplace* that is referred to in this paper (unless stated otherwise) refers to a sample marketplace that was created *within* our controlled environment. It is not available publicly and should not be confused with the publicly available Marketplace. The sample portal will ship with the product and it is just that, a sample.

### 1.2.1 Scenario roles

The scenario features the following roles:

- Service provider

  The middleware system programmer that takes the requests from application developers, testers, and other requesters. The middleware system programmer tailors the service template to meet the software service provisioning requirements.

- Domain and tenant administrator

  Responsible for creating tenants in the domain and putting the service template into the tenant in which the service instances are going to run.

- Resource pool administrator

  Responsible for allocating the following network resources in the pool and connecting the resources pool to the software service template:

  - TCP/IP addresses
  - Ports range
  - SNA APPL ID
  - TCP/IP stack

- Template domain approver

  Responsible for the approval or rejection of the software service template.

- Service consumer

  Granted access to the services and resource pools for a specific tenant. A consumer can provision a service instance and can manage the lifecycle of a service instance.

In our scenario, the ZCLDPA1 is a service provider and tenant administrator, ZCLDPA4 is the resource pool administrator, ZCLDPA5 is the domain approver, and ZCLDPC1 is the service consumer.

### 1.2.2 Scenario terms

In the Cloud Provisioning tasks, we work with the following objects:

- Instance, or software services instance

  Represents software that was provisioned by using templates.

- Template, or software services template

Consists of work flows and associated actions and variables that can be used to provision z/OS middleware.

- Domain

  A domain consists of a z/OS system or set of systems in a sysplex, which defines the management scope for tenants, services, and resource pools. A z/OS system can be in a single domain or in multiple domains that are managed by a single z/OSMF. Each cloud domain is assigned one or more domain administrators.

- Resource Pool

  A resource pool defines the scope of shared z/OS resources within a cloud domain that has multiple tenants.

- Tenant

  A tenant defines the resource sharing scope; for example, a line of business or a class of users. A tenant consists of a user or group of users who can use a domain's specified services and pooled z/OS resources.

### 1.2.3 Scenario activity areas

The following main tasks are related to cloud provisioning on z/OS and are in the Cloud Provisioning category of navigation:

- Marketplace

  The software service that is available for service consumers to subscribe and provision the instances.

- Marketplace Administration

  The service provider can publish the software service template into the Marketplace for consumer access.

- Resource Management

  The resource administrator can define the domain of systems and the classes of users (tenants) that participate in Cloud on z/OS, including the resource pools for the tenants.

- Software Services

  The service provider or consumer can use the Software Services task to provision z/OS middleware. This process can include creating instances of IBM middleware, such as CICS, DB2®, IMS™, IBM WebSphere® MQ, or WebSphere Application Server.

As the service consumer, the Marketplace Administration and Resource Management tasks are invisible according to your task role.

**Note:** Some values that are shown in this document can differ from the values you see on your z/OSMF system because our scenario uses pre-Generally Available (GA) levels of the software. Also, the way you chose to assign roles to people might also differ, depending on your organization's requirements.

## 1.3 Scenario overview

Cloud services provisioning on z/OS features the following general areas:

- Service Enablers
- Service Consumers

The Service Enablers are divided into the following subroles:

- Middleware systems programmers

  These system programmers have specialist middleware knowledge in CICS, Liberty WebSphere Application Server, DB2, IMS, and WebSphere MQ. Their role is to create the template and work flows that perform the necessary actions to build the instance of middleware, such as a CICS region.

- z/OS systems programmers

  Although only one title is used here, the role of systems programmer in this context covers the following areas:

  – Operating systems programmer
  – Security administrator
  – Performance analyst
  – Storage manager
  – Network systems programmer
  – Operations analysts
  – Operator
  – Capacity planner

  These roles lie in provisioning the underlying infrastructure resources within z/OS to complement the services that are defined by the specialist middleware systems programmer. The activities involve setting up, maintaining, monitoring, and managing the system's resources, as shown in Figure 1-2.

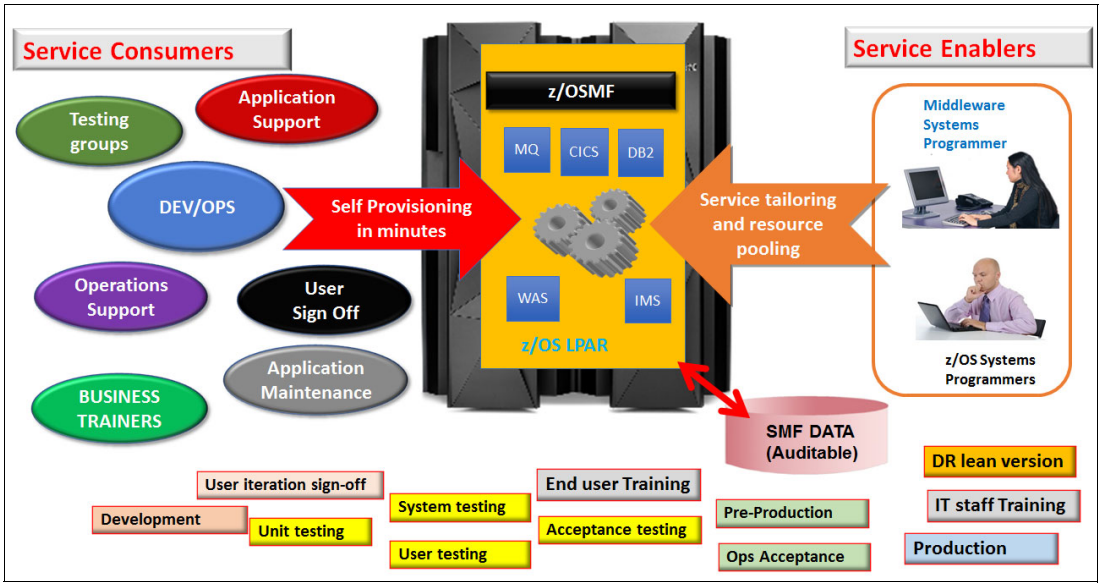


*Figure 1-2 Cloud provisioning overview*

In our scenario, we take you through the scenario provisioning activities.

The controlled environment is at the z/OS V2R2 level and uses z/OSMF. Figure 1-3 shows the high-level view of the scenario provisioning activities.

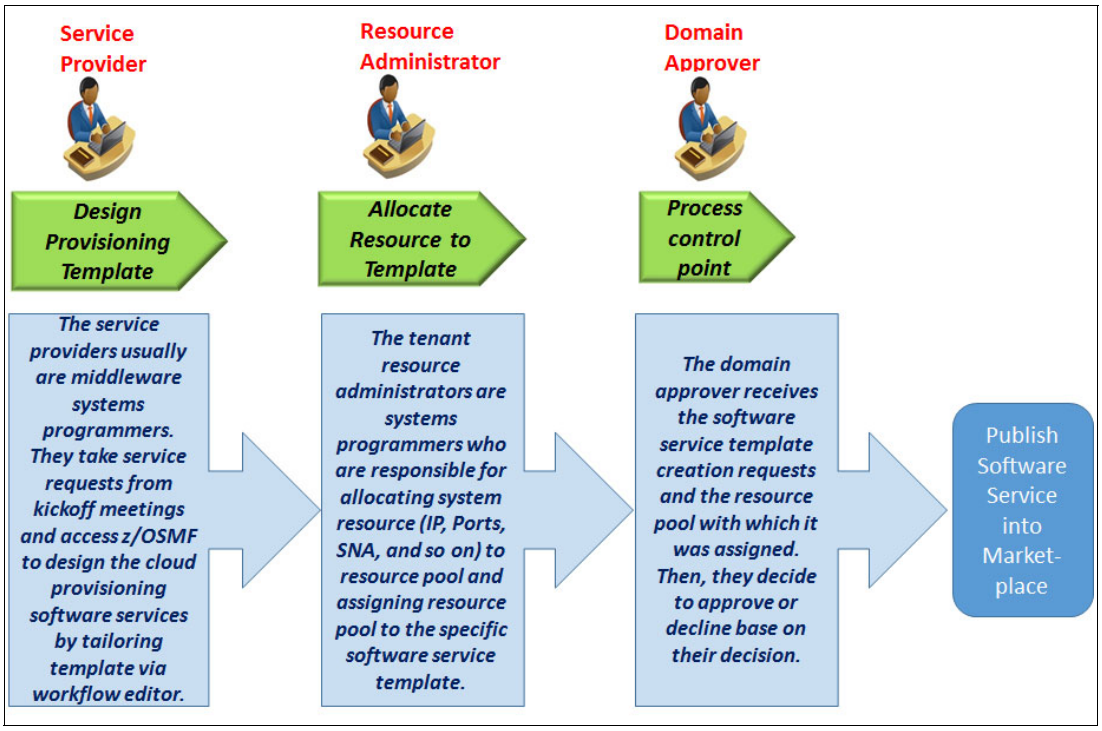


*Figure 1-3 Setting up the service and resources*

The process includes the following steps:

1. Customize the software provisioning template to meet service requests.
2. Connect the provisioning template with the network resource pool.
3. Approve the software provisioning template as process control.
4. Test run the provisioning template to provision one CICS TS SMSS instance.
5. Publish the software provisioning template into Marketplace for public use.

The service is available in the Marketplace and the service consumer can access the service. Figure 1-4 shows the overview from the service consumer's perspective.

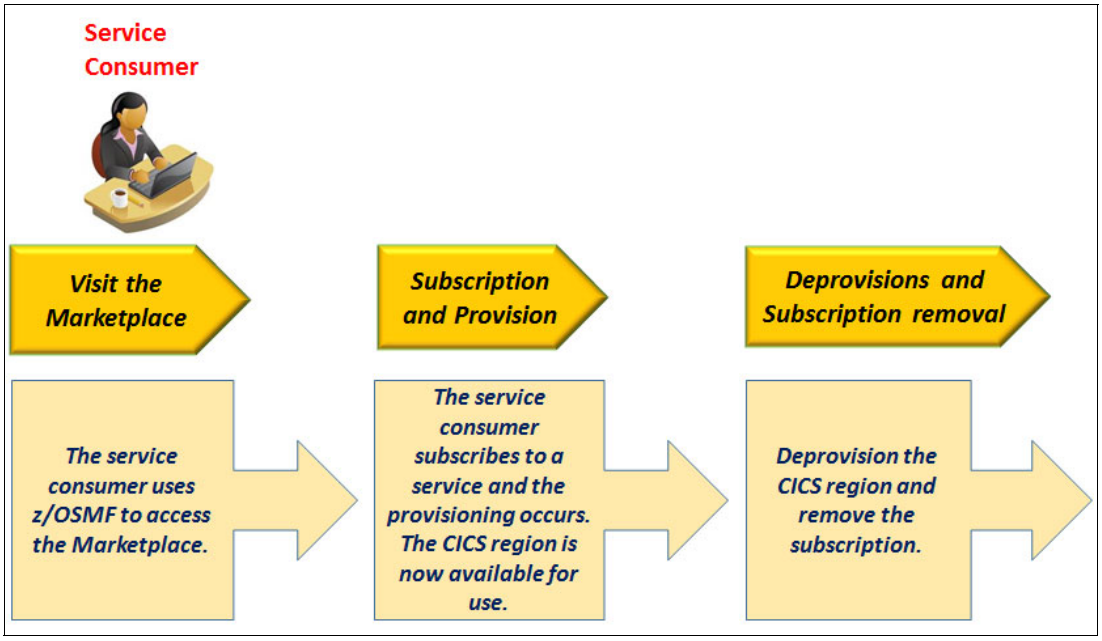


*Figure 1-4 Service consumer's perspective*

6. Subscribe the CICS TS SMSS service from Marketplace.
7. Provision the service from template.
8. Deprovision to remove the software instance and release allocated resources and remove it from z/OSMF.

A key advantage of running cloud services on z/OS is SMF data can be used to track activities to provide the basis of charge back. In addition, it can be used to review and plan future services.

2

# Customizing the template

A sample template is included with the CICS software. Because the template is only a sample, you might want to customize specific values that align with your installation's environment and standards.

For example, as a middleware systems programmer, you might like creating CICS images quickly. However, the IBM provided workflow assigns an IP address dynamically and this feature might not fall in line with your available IP addresses for your CICS test regions.

In this chapter, we describe how to modify a workflow to accomplish aligning the template and workflows to you environment.

## 2.1 Customizing scenario tasks

This section describes the service provider's tasks that are used to customize one software service provisioning template by using z/OSMF.

Complete the following steps to customize the template:

1. Open a web browser and enter the following URL:

   `https://your_zOSMF_host_ip:zOSMF_port/zosmf`

   You can use Firefox, Safari, or Internet Explorer (confirm browser compatibility for z/OSMF requirements). If the browser prompts you to add a certificate exception, grant the exception as requested.

   **Note:** Be sure to check with your local policy on accepting and storing certificates.

2. Click **Log in** and log in as the service provider role. `ZCLDPA1` is the user ID that was used in our scenario, as shown in Figure 2-1.

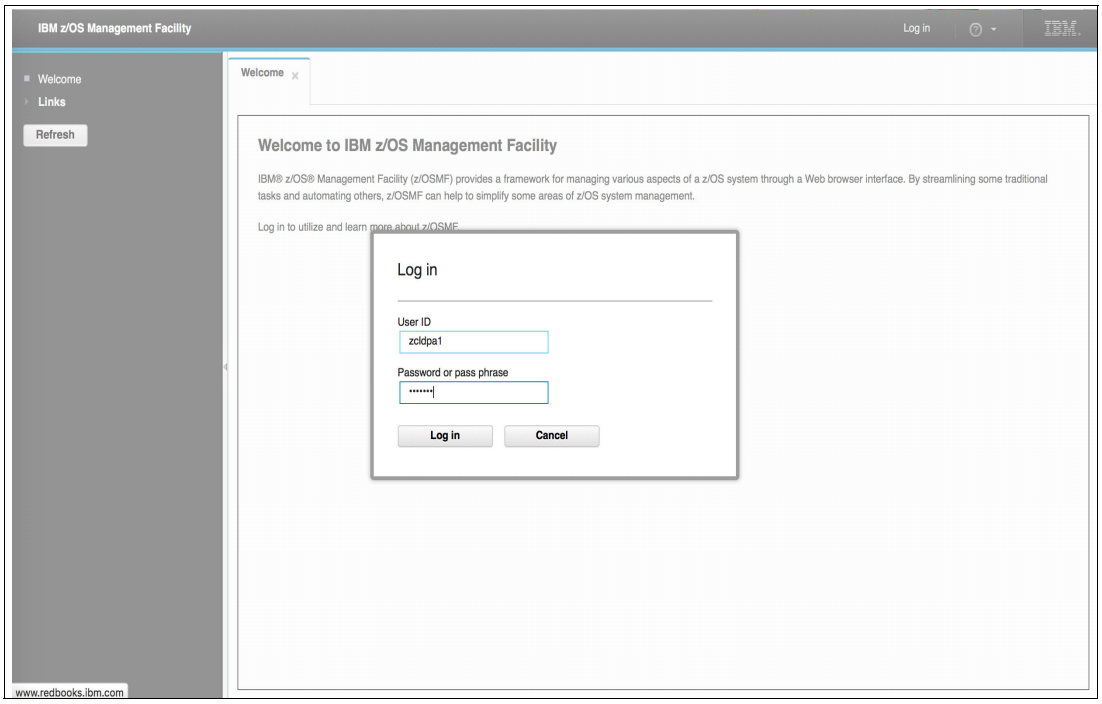


*Figure 2-1 Service provider log in to z/OSMF*

The Welcome page opens, as shown in Figure 2-2. The navigation links are on the left side of the window.

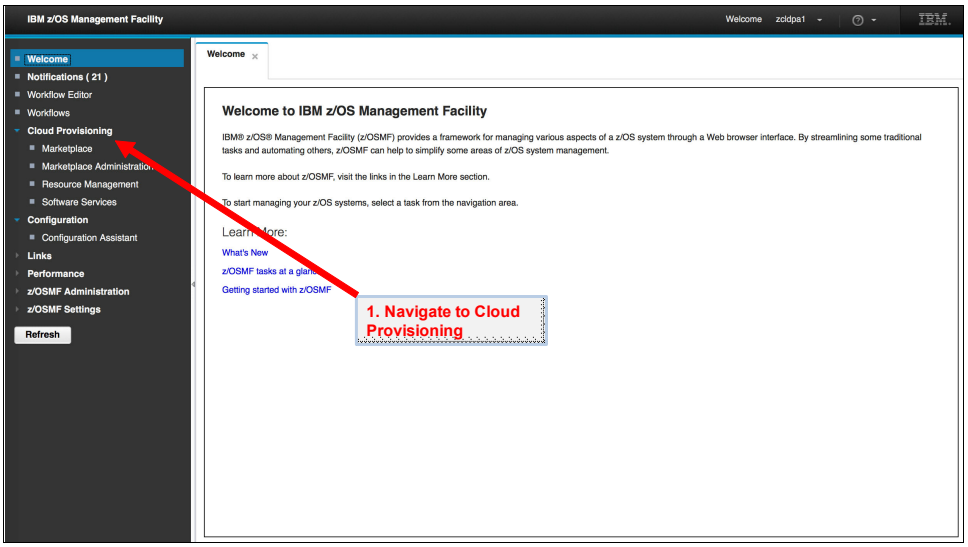


*Figure 2-2 Cloud Provisioning options*

3. Click the **Software Services** link. The Software Services page opens, as shown in Figure 2-3.

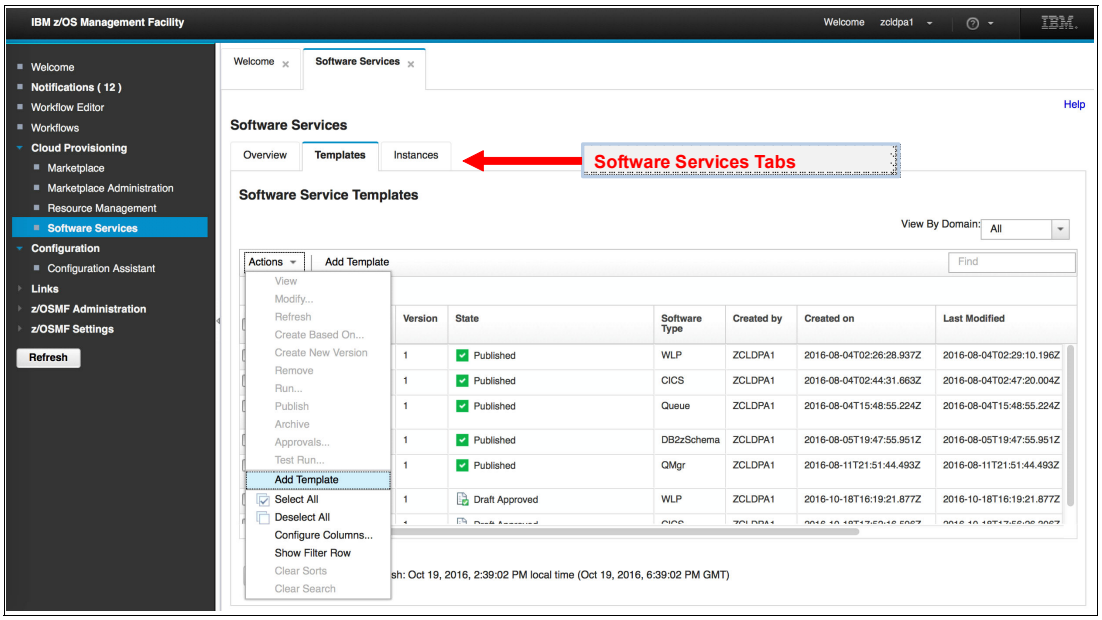


*Figure 2-3 Software Services tabs*

The Software Services section features the following tabs:

– Overview

  Shows summary information in graphic form of how many software service instances were provisioned from templates, and how many templates are in place for provisioning software service instances.

– Template

  Shows templates that consist of z/OSMF workflows and associated actions, variables, and input properties files that can be used to customize and provision middleware.

– Instances

  Shows instances that represent middleware that was provisioned by using templates or through the Marketplace.

## Adding a template

The next step in customizing a new software service is to add a template. The sample templates are supplied with workflow files and information by the middleware systems programmers.

Complete the following steps:

1. Click the **Templates Tab** and then click **Add Template** from the Action menu. The display that is shown in Figure 2-4 opens.

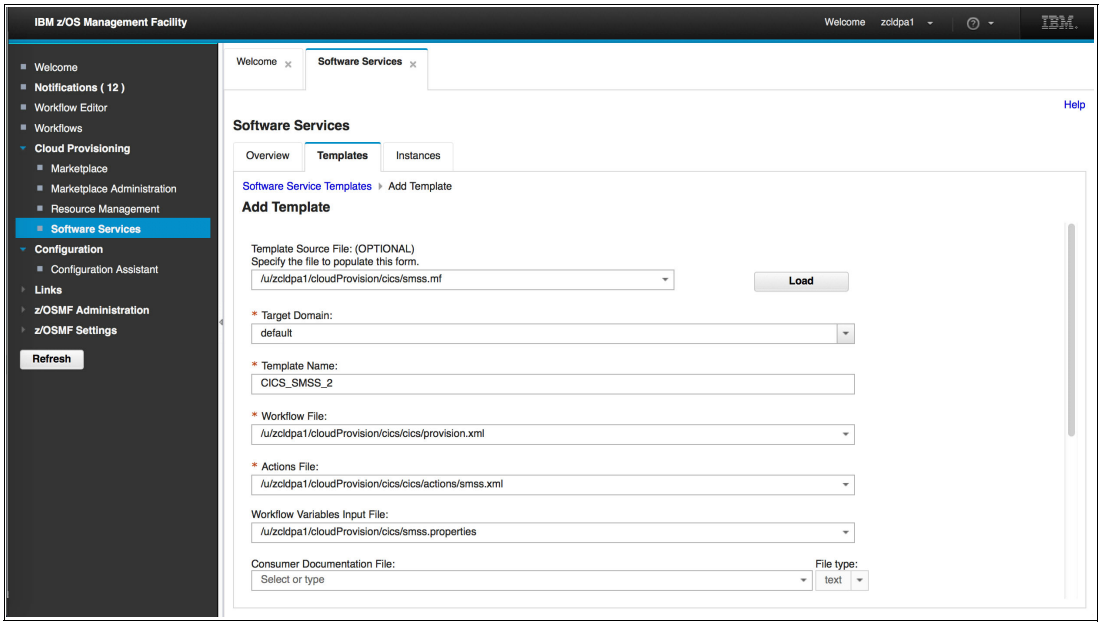


*Figure 2-4 Add Template display*

2. On the **Add Template** panel, specify the files and properties for the CICS template. To simplify filling out many of the required fields, IBM provided a Template Source file for CICS, which is selected from the Template tab.
3. Select the **Template Source File** from the path list. Then, click **Load** to complete the form. Values for the workflow, actions, and workflow variables input files are imported.
4. Enter the template name as `CICS_SMSS_2`.
5. Verify that the Target Domain is assigned. In our scenario, the domain is set to `default`. The Workflow file includes the steps to provision a new service; the input file includes the initial values for your template. The Actions File defines the actions that the consumer can take against the instance that is created from the template.

6. Click **Ok**. The template is created and the template status changes from “Pending Security Update” to “Draft Pending Approvals”**,** as shown in Figure 2-5.

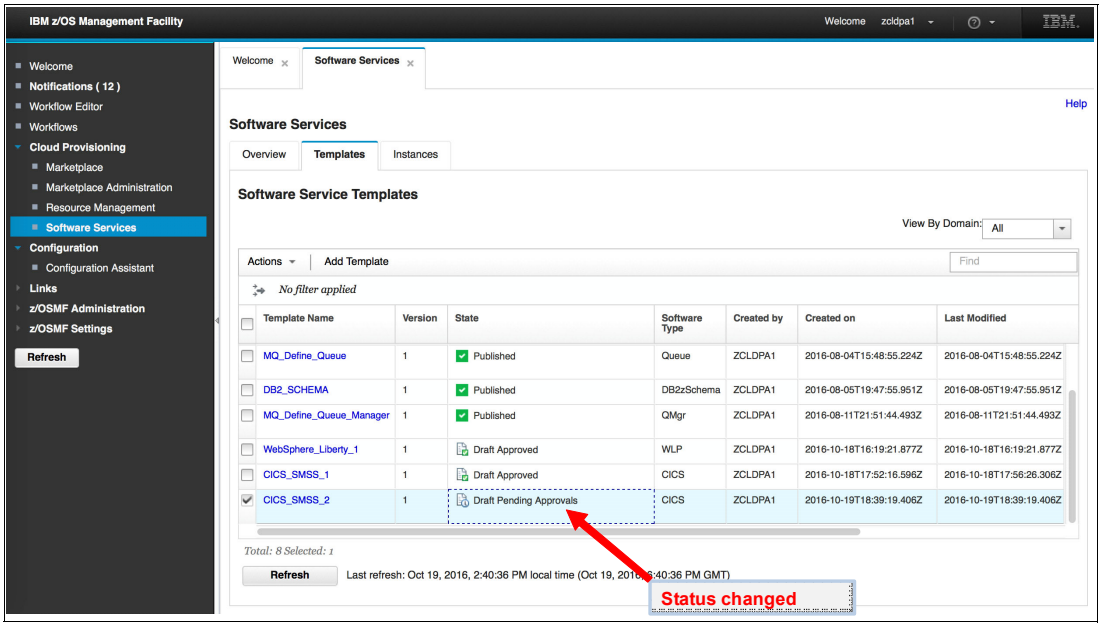


*Figure 2-5 Template status changes to Draft Pending Approvals*

7. The template properties or the files that are associated with the created template must be modified to accommodate software consumer’s provisioning requirements. This modification is made by changing steps. Select the template and click **Actions** to display a menu. Then, select **Modify...**, as shown in Figure 2-6.

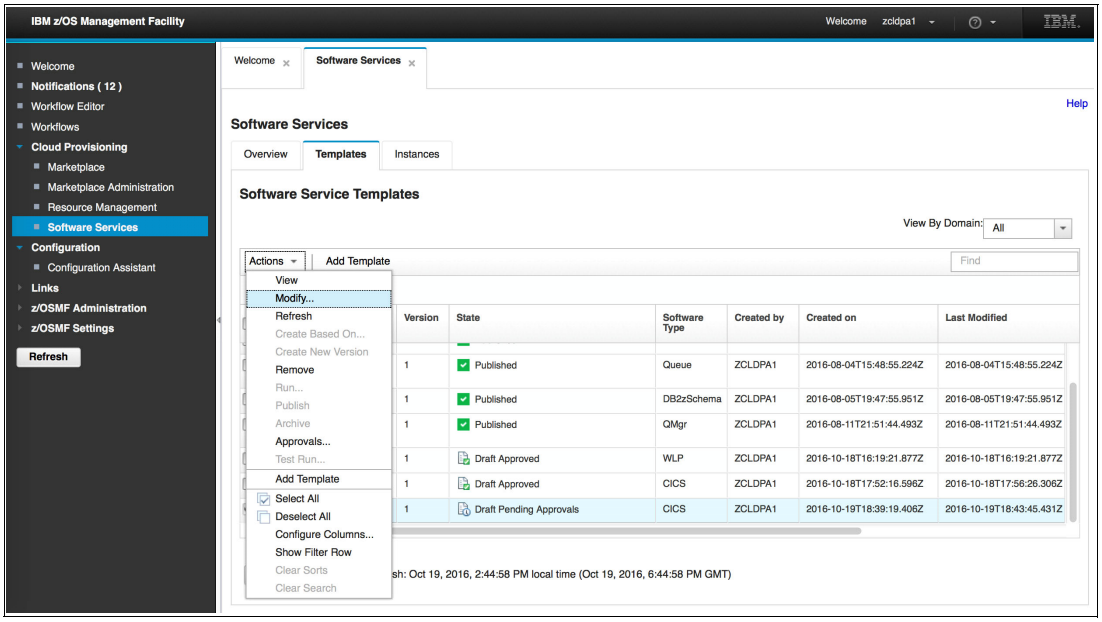


*Figure 2-6 Selecting the modify action for a template*

8. The window that is shown in Figure 2-7 is displayed. Click **Edit** to open the workflow file in the Workflow Editor.

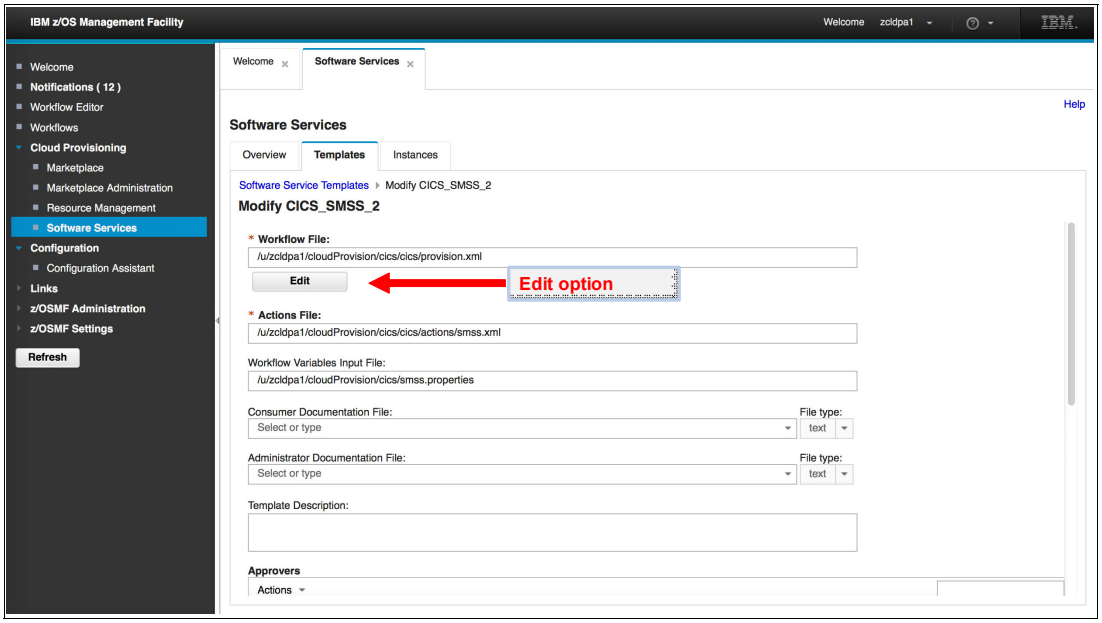


*Figure 2-7 Edit option for the template*

9. Click the **Edit** option to open the Workflow Editor panel. The Workflow Editor is a tool that provides an easy way to modify the workflow for changing the input variables and properties file.

   By using the Workflow Editor, you can display and edit the workflow definition without knowing the syntax of the workflow XML. The editor organizes information about the workflow by using the following tabs:

   – Metadata

     Contains the metadata for information, such as the name of the product for which this template was built, as shown in workflow (see Figure 2-8 on page 15).

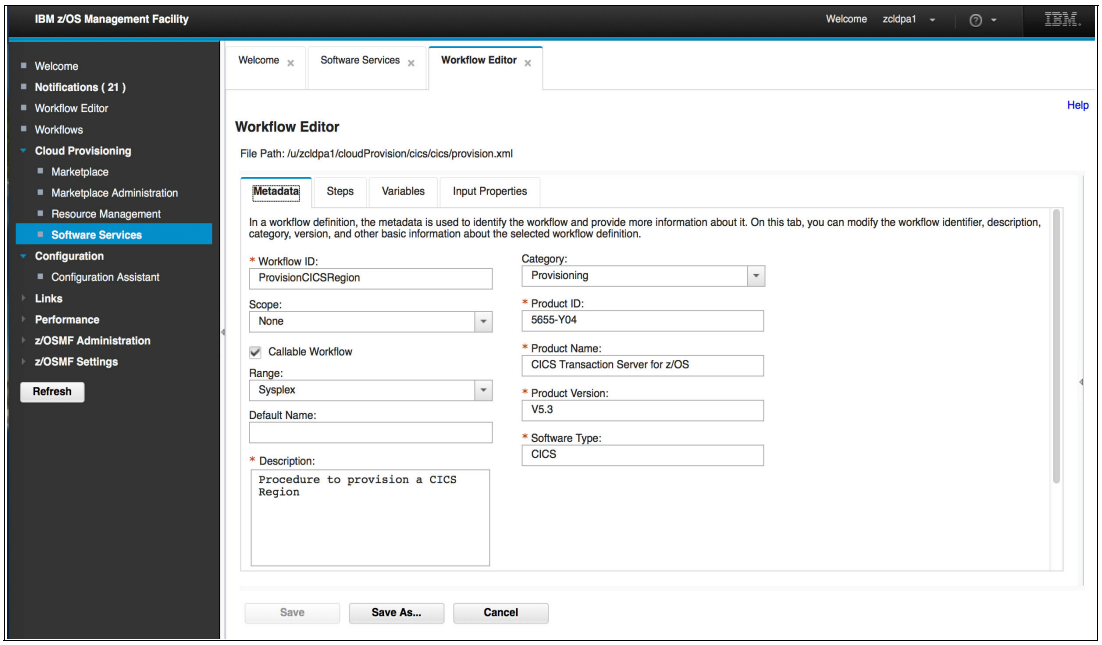


*Figure 2-8 Workflow Editor panel Metadata tab*

– Steps

Includes the steps of the workflow, as shown in Figure 2-9.

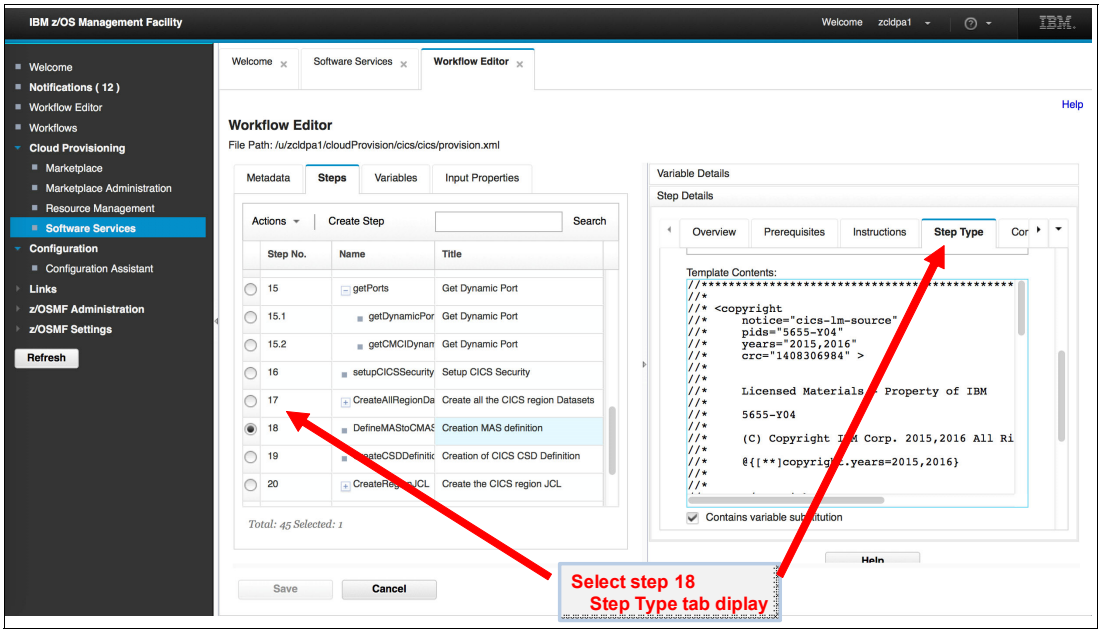


*Figure 2-9 Workflow Editor Steps tab*

A step is a logical unit of a task. It describes a specific activity that the workflow is going to perform. We click option number **18 DefineMAStoCMAS**, the Step Details panel opens to the right with which the system programmer can use to evaluate more properties of the workflow. In the Step Type tab, the JCL to be used for the step also is shown.

– Variables

This tab shows the variables for the workflow, as shown in Figure 2-10. Variables can be referenced by the workflow steps for substitution in steps that are in instructions and templates, and for API calls to a REST interface.

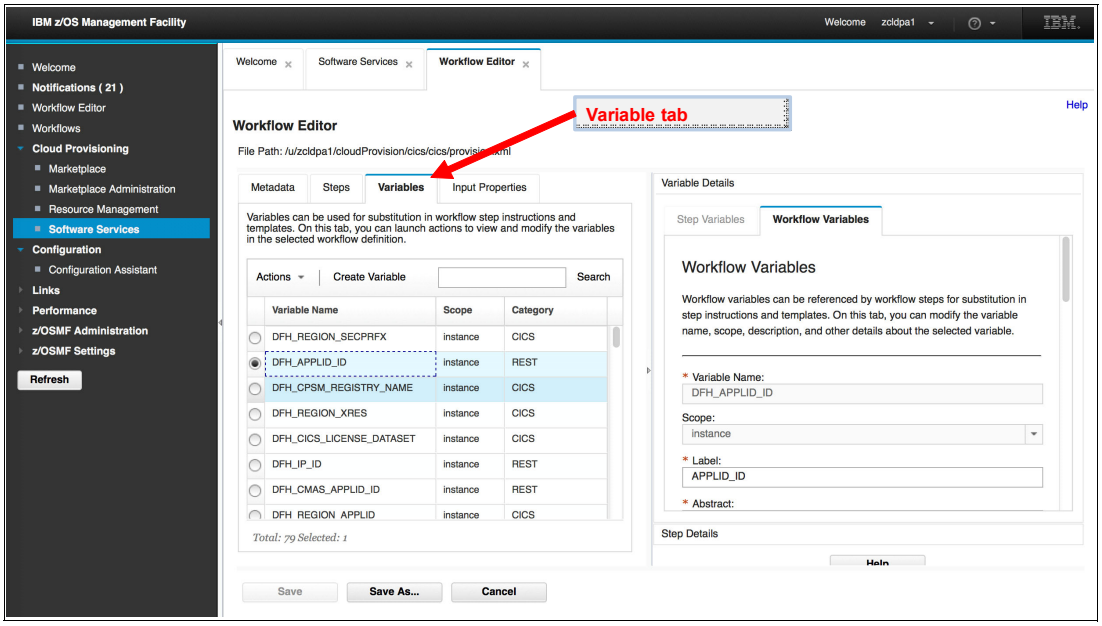


*Figure 2-10 Workflow Editor Variables tab*

– Input Properties

The input properties file that supplies the default values for input variables that are defined in the workflow input definition file are shown in this tab. It is a series of *name:value* pairs. An existing value can be changed. As shown in Figure 2-11, the DFH_ENABLE_DVIPA property was changed from “false” to “true”, which means the CICS TS SMSS server retrieves one IP address from the DVIPA resource pool dynamically instead of using one static IP address. Scroll down to the bottom and click **Save**.

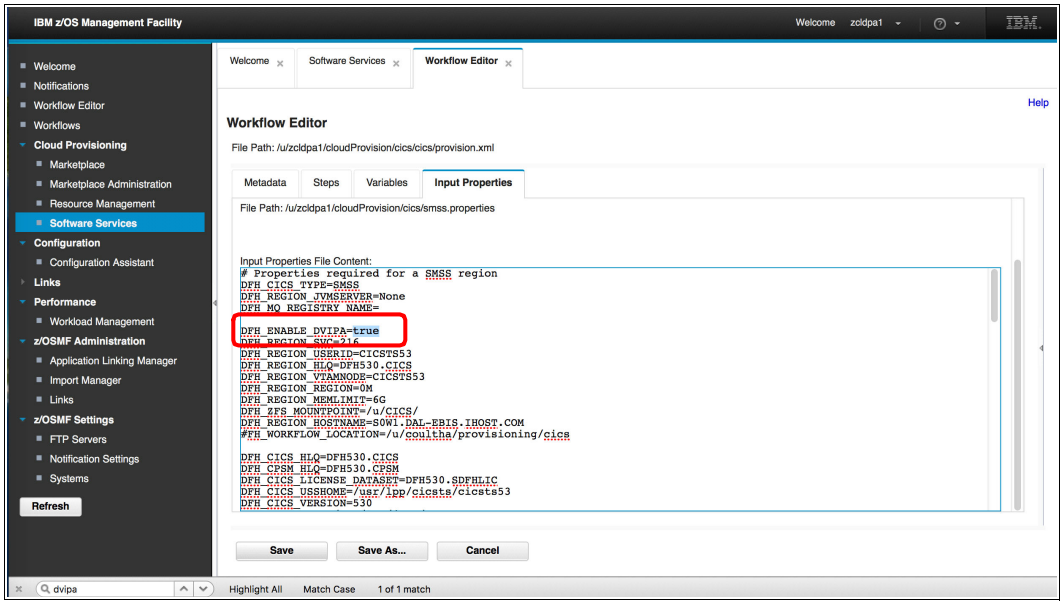


*Figure 2-11 Workflow Editor Input Properties tab*

The software provisioning template is created and customized.

Before we can use the template to provision a CICS TS SMSS instance, we must connect it to the cloud provisioning resources pool by using the Resource Management task.

3

# Adding resources to the template

In this chapter, we describe how to add resources to the template that is used to provision a CICS TS SMSS instance.

This chapter includes the following topics:

# 3.1 Providing resource pools

In this section, we describe how to add a template to a resource pool.

The tenant resource administration is performed by systems programmers who are responsible for allocating Centrial Processing Unit (CPU) resource by defining domains and workload manager (WLM) classes to a resource pool and assigning the resource pool to a software service template.

We continue to use the User ID ZCLDPA1 because in our controlled environment, the user ID can act as the service provider to create the template. The user ID also can create resource pools.

We select the **Resource Management** link from the left navigation area and the Resources Management page opens, as shown in Figure 3-1.

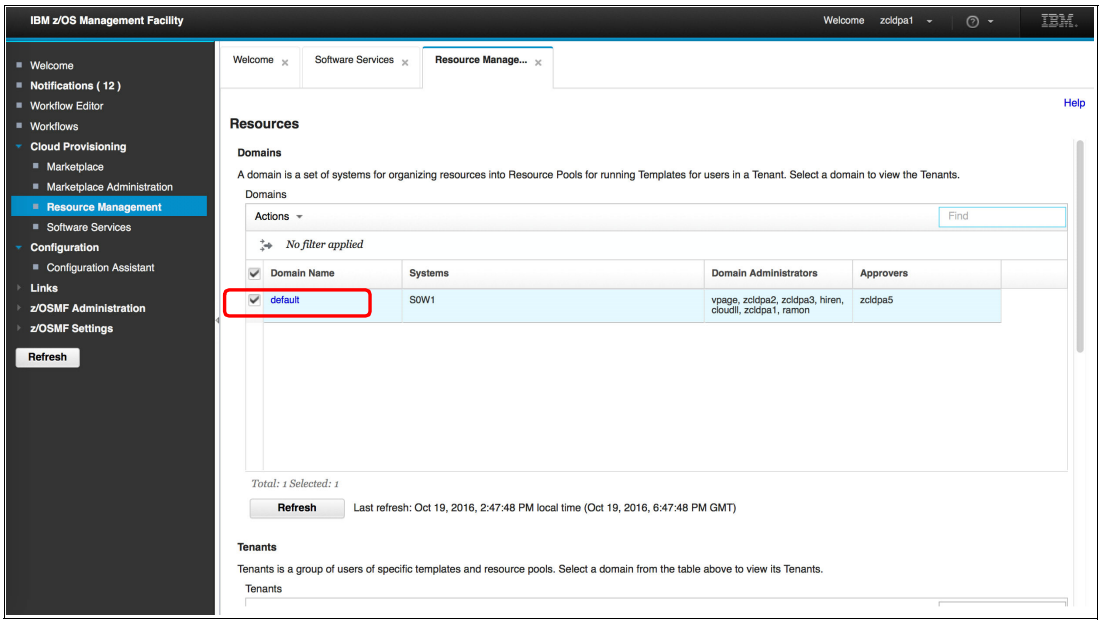


*Figure 3-1 Resource Management window*

We connect the software provisioning template that was created in Chapter 2, “Customizing the template” on page 9 to a tenant for the default domain.

We select the default domain. The window that is shown in Figure 3-2 opens.

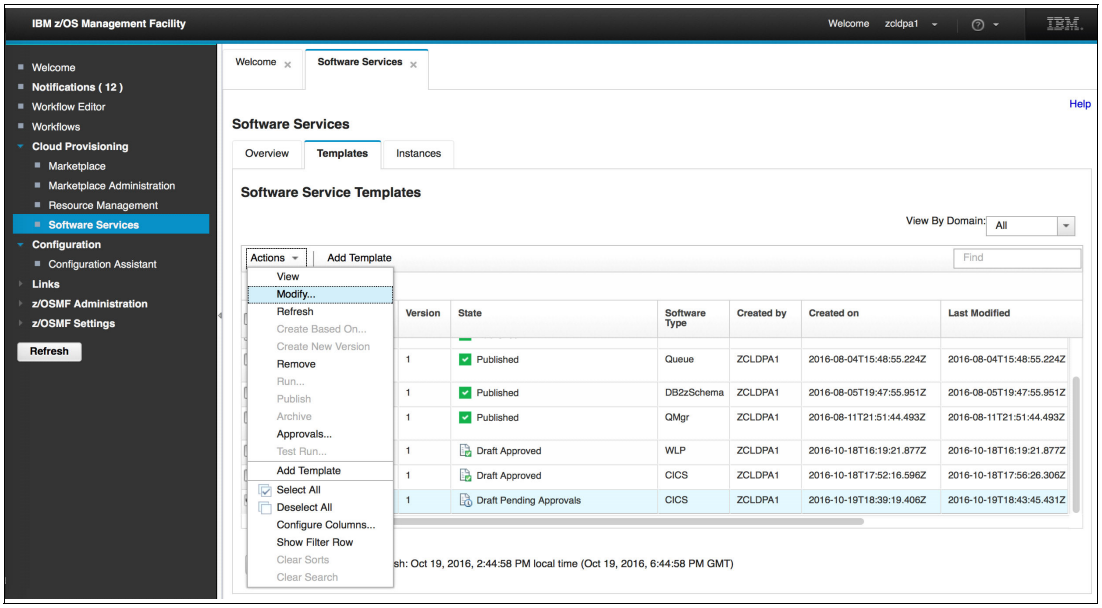


*Figure 3-2 Preparing to modify the default tenant*

We scroll down the page to view the tenants that are associated with this domain. There is a default tenant for the default domain. We can define multiple tenants in one domain, but only one default tenant in the default domain exists in our scenario.

We select the default tenant and click **Actions** then select **Modify...** from the menu to modify the tenant to associate the new template to that default tenant.

The Modify Tenant page of the default tenant enables us to change its properties. In the Template table, we click **Actions** to display a menu then select **Add Templates and Resource Pools**..., as shown in Figure 3-3.

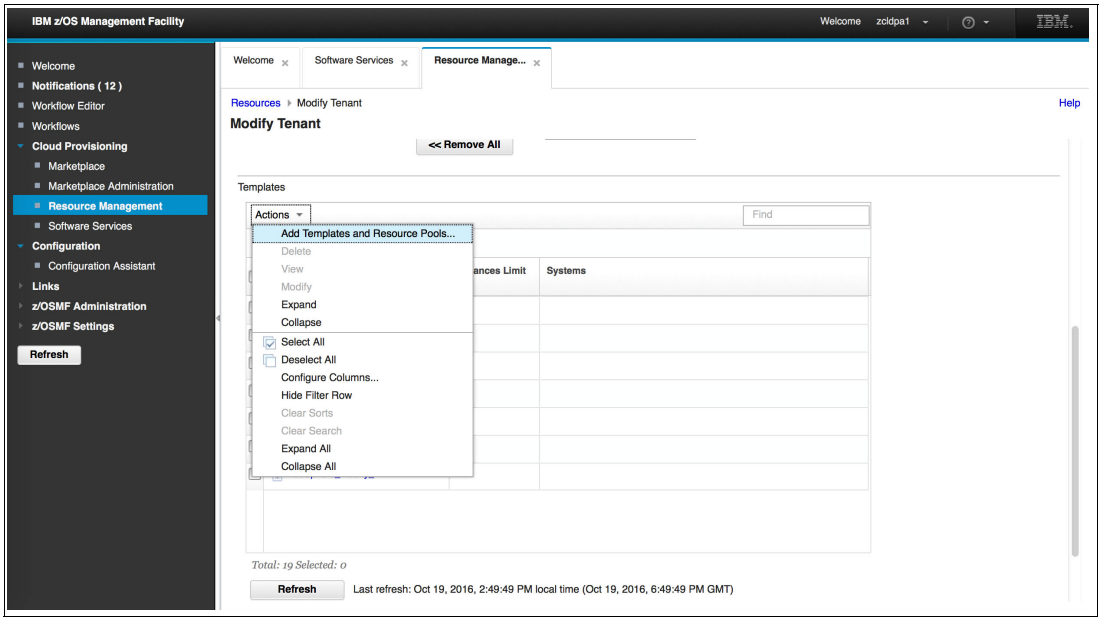


*Figure 3-3 Adding templates and resource pools in Resource Management*

On the Add Template and Resource Pool page (as shown in Figure 3-4) we must identify the template that we created and the resources to be used. In our scenario, we used the following values:

- Select Template: `CICS_SMSS_2`
- Resource Pool name: `CICS2ResourcePool`
- Software service instance name prefix: Use SNA APPLID
- Number of software service instances limit: 4
- Create network resource pool: Selected

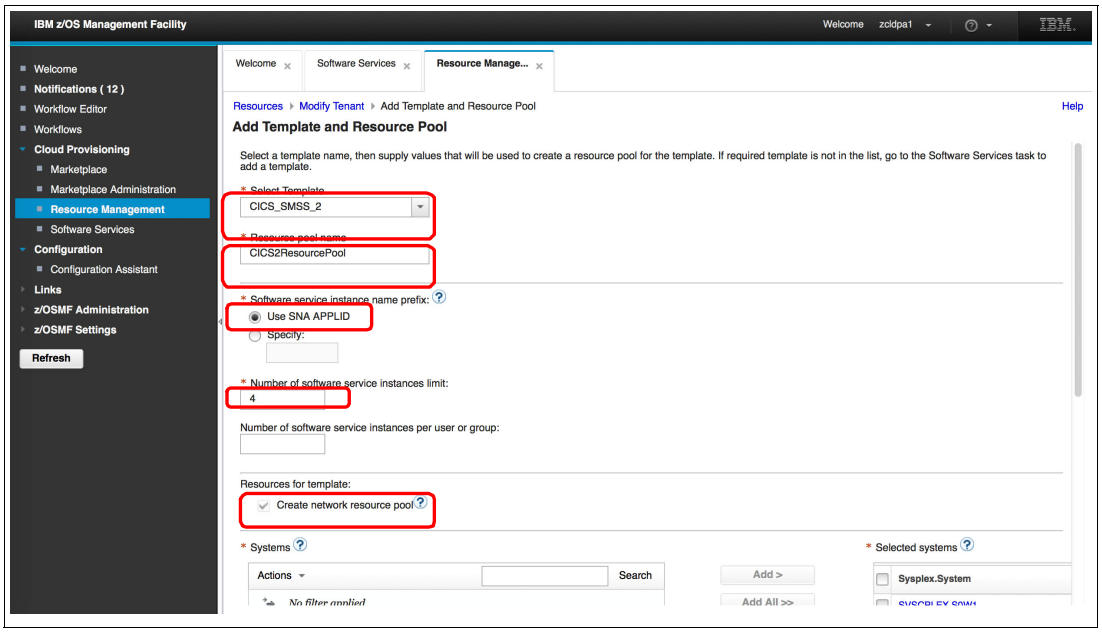


*Figure 3-4 Identify template and assign resources*

We scroll down to confirm that a default system is in the selected System table. Then, we click **OK**.

A pop-up window shows that the Resource pool for the template will be created with network resources. The network administrator must complete the network resource pool definition in the Configuration Assistant task. We click **OK** to proceed (see Figure 3-5).

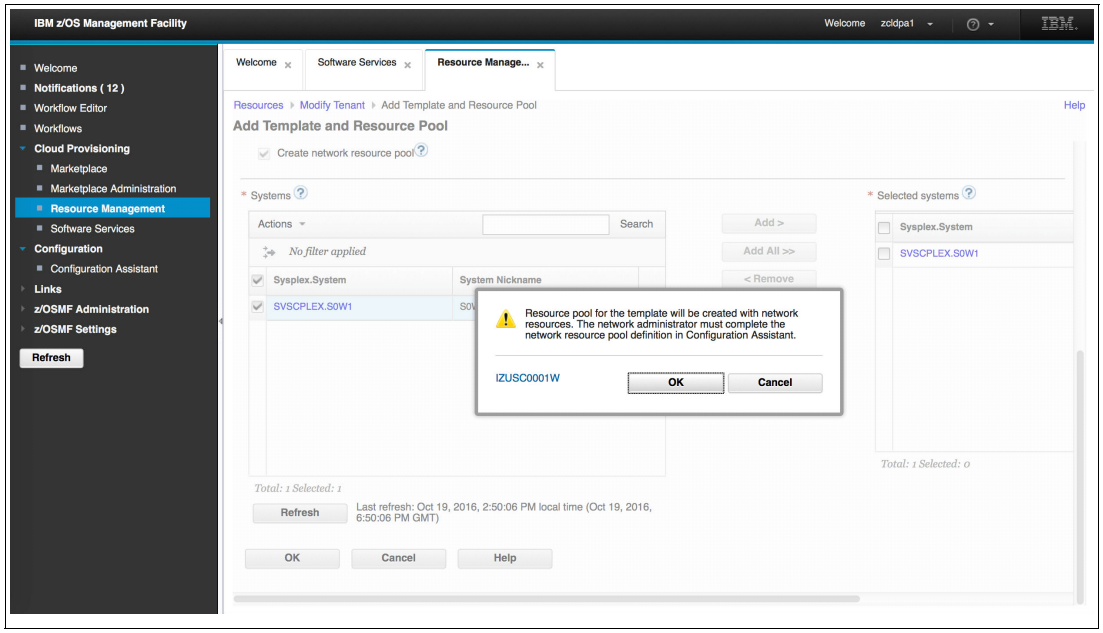


*Figure 3-5 Template resource details confirmation*

The software provisioning template is now associated with the default tenant in the default domain, as shown in Figure 3-6.

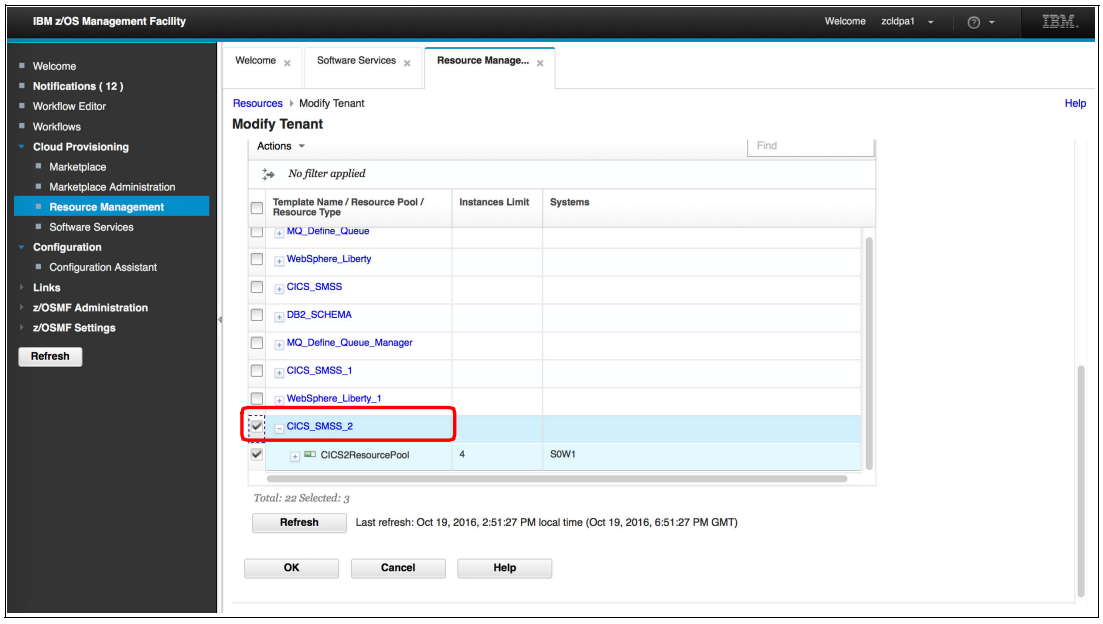


*Figure 3-6 Template associated with default domain.*

## 3.2 Assigning network resources into the resource pool

In this step, we must log on the z/OSMF as the network administrator (in our scenario, the user ID is ZCLDPA4) to assign allocated network resources to our resource pool that was created and allocate them. That resource pool is used by the software instances that were provisioned from the software template with which the resource pool is associated.

We click **User ID** in the upper-right of the window and click **Switch User**. We enter `ZCLDPA4` and its password to log in. We expand the Configuration category from the left navigation area and select **Configuration Assistant**. The Welcome window that is shown in Figure 3-7 opens.

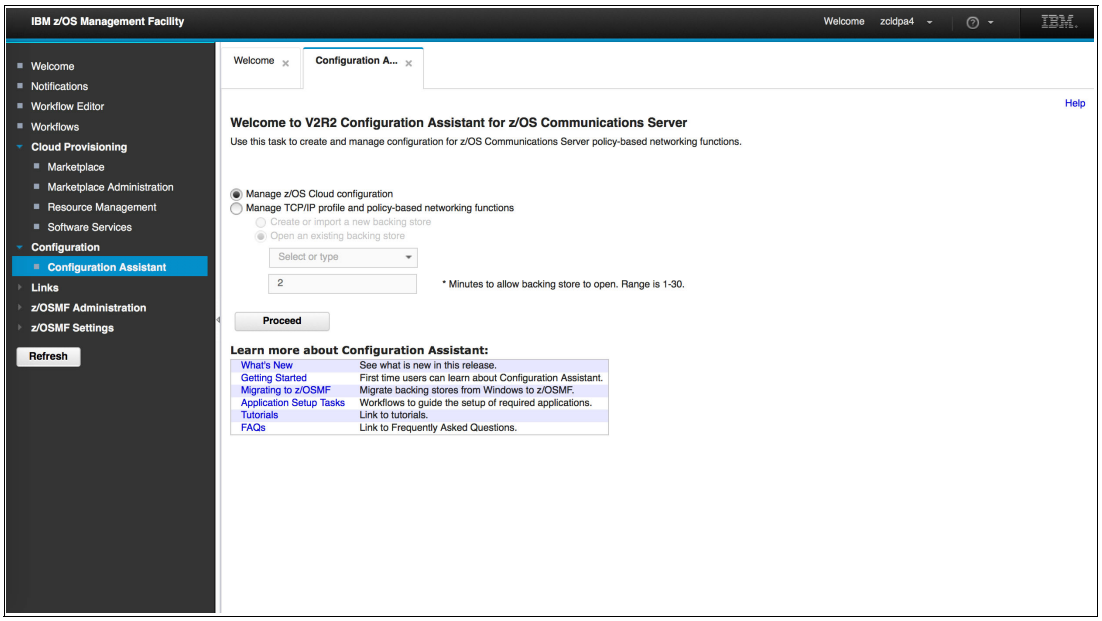


*Figure 3-7 V2R2 Configuration Assistant for z/OS Communications Server*

We select **Manage z/OS Cloud configuration** and click **Proceed**. The Work with a Cloud Domain page that is shown in Figure 3-8 opens.

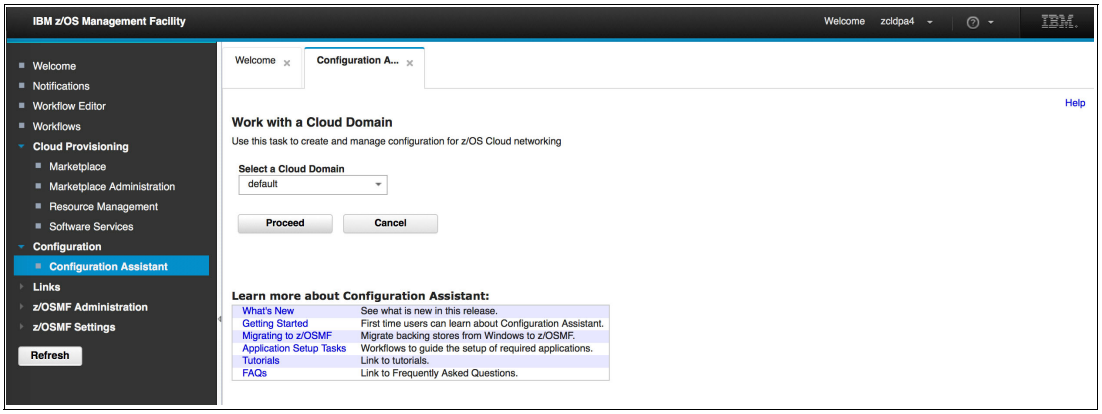


*Figure 3-8 Work within a Cloud Domain page*

We select the default domain and click **Proceed**. The window that is shown in Figure 3-9 opens, which includes the default domain network-related information.

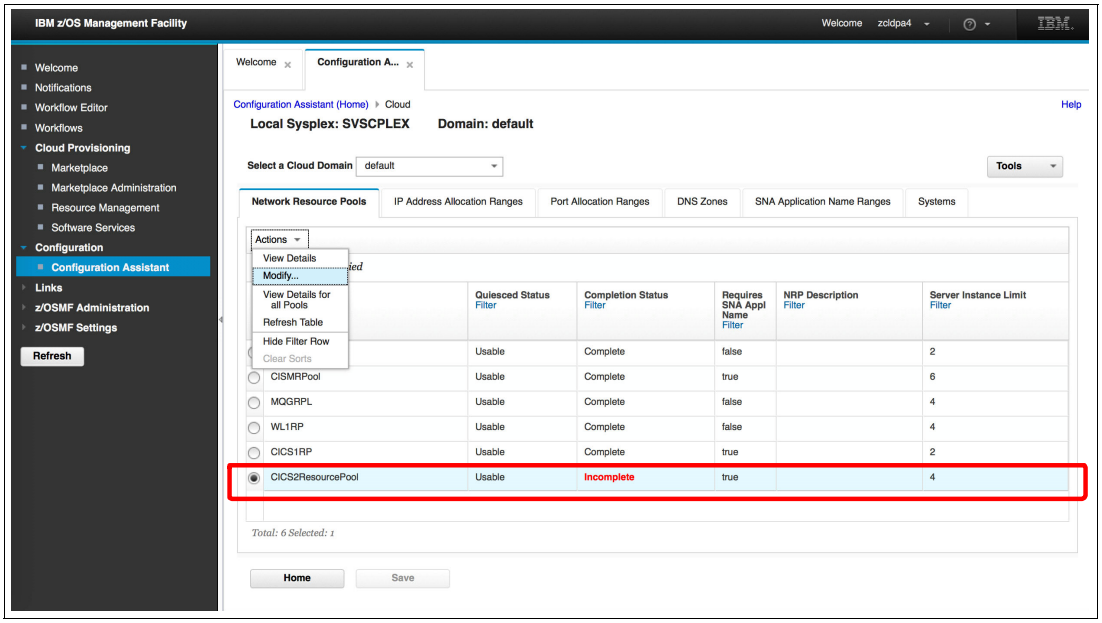


*Figure 3-9 Network Resource Pools tab*

The CICS2ResourcePool in the Network Resources Pool table features the completion status, which is indicated as “Incomplete” in red text. We select that resource pool and click **Actions** then, select **Modify...**

We select the **Is Complete** option in the Attributes tab, as shown in Figure 3-10.

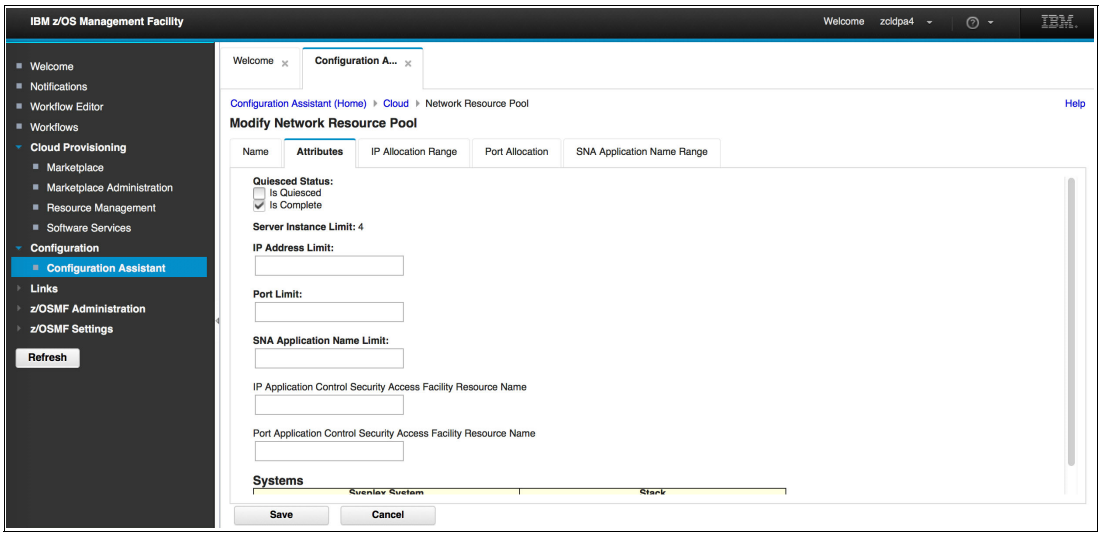


*Figure 3-10 Updating the Quiesced status in the Attributes tab*

We click the **IP Allocation Range** tab. The window in Figure 3-11 opens.

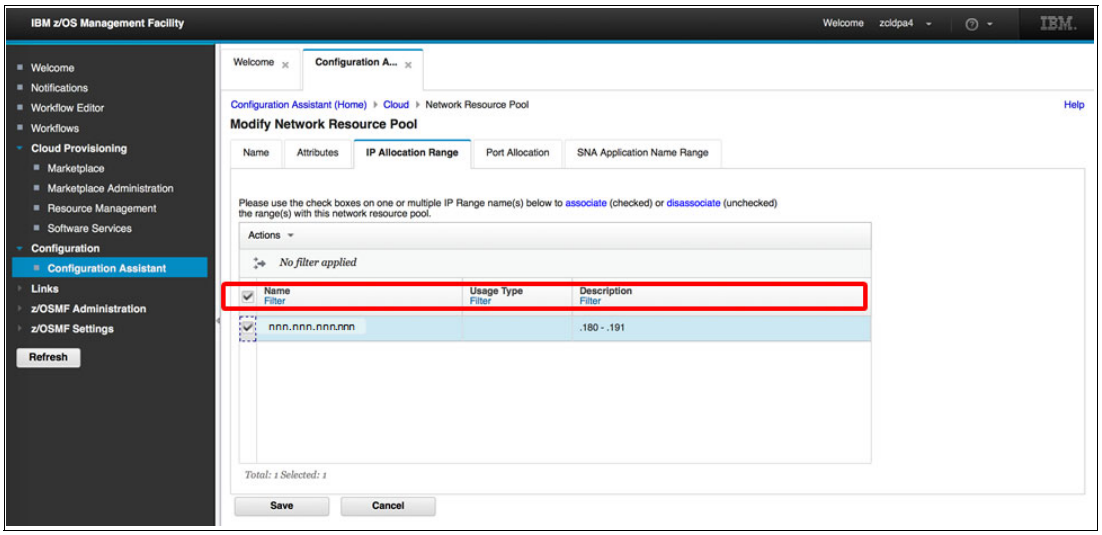


*Figure 3-11 IP Allocation Range*

We select the IP Allocation Range in the table. The template that is associated with the network resource pool uses DVIPA.

We select the **Port Allocations** tab, and select **228_ports** in the table. The default CICS port is in the range that is named 228_ports, as shown in Figure 3-12.

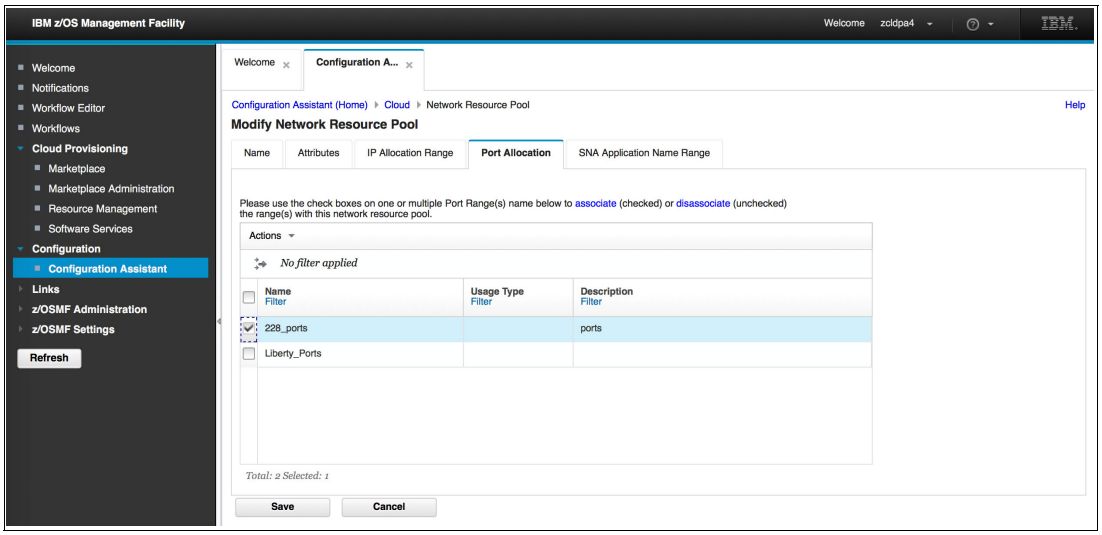


*Figure 3-12 Port allocation selection*

We select the **SNA Application Name Range** tab. Then, we select **CICSAPPL** (see Figure 3-13), and click **Save**.

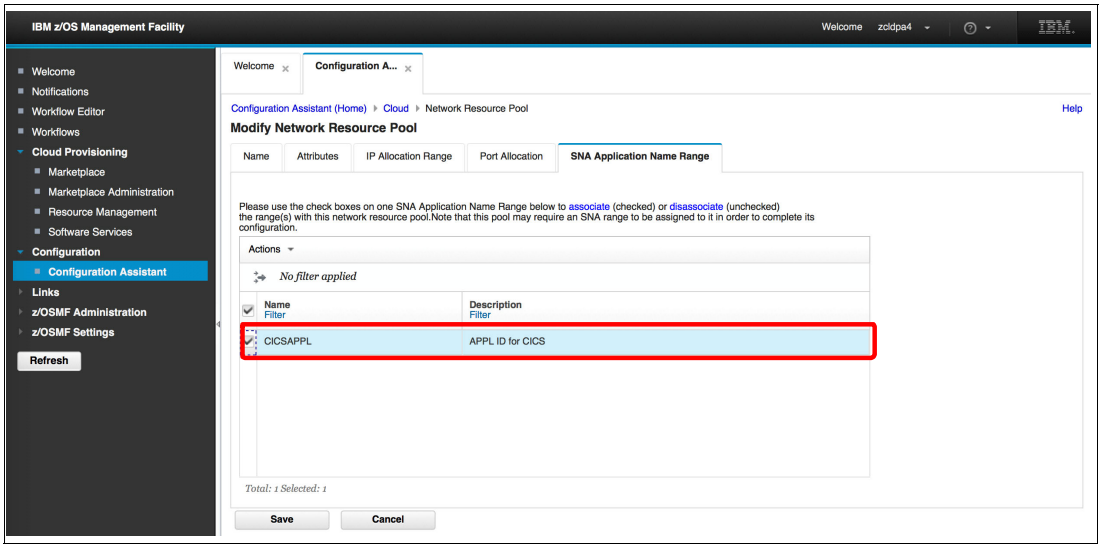


*Figure 3-13 Configure the SNA Application Name Range*

We return to the Network Resource Pools tab (see Figure 3-14) and can see that the completion status of the network resource pool that is named **CICS2ResourcePool** in the table is “Complete”.

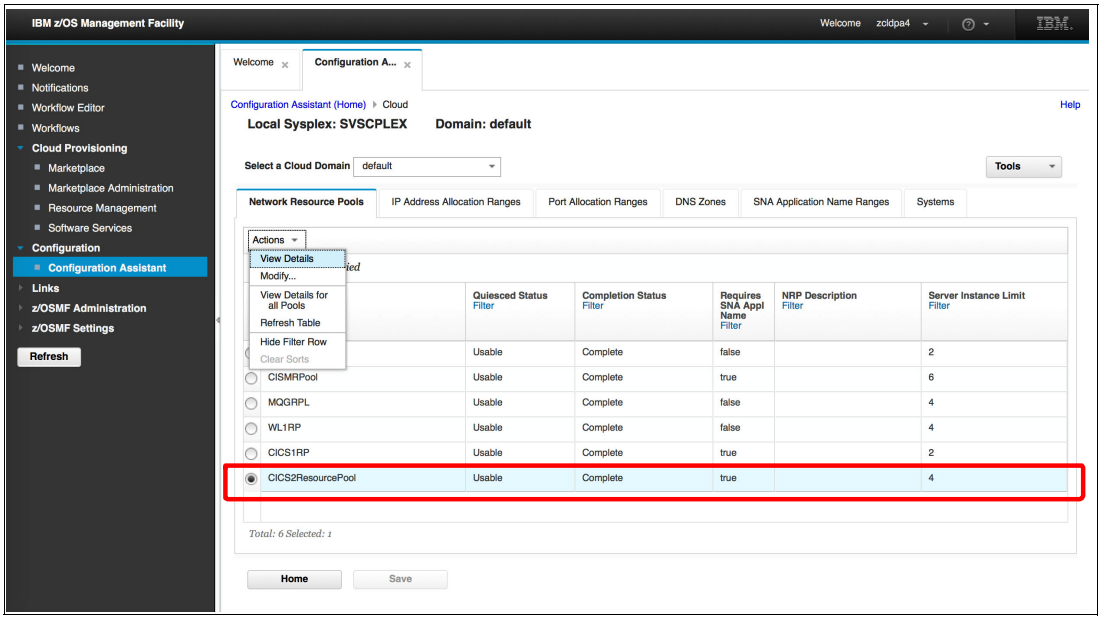


*Figure 3-14 Network Resource pool status*

We can also display the resources that are assigned with the template by clicking **View Details** from the Actions menu. The table that is shown in Figure 3-15 on page 28 features the following information:

- IP Address Allocation Range
- Port Allocation Ranges
- SNA Application Allocation Range

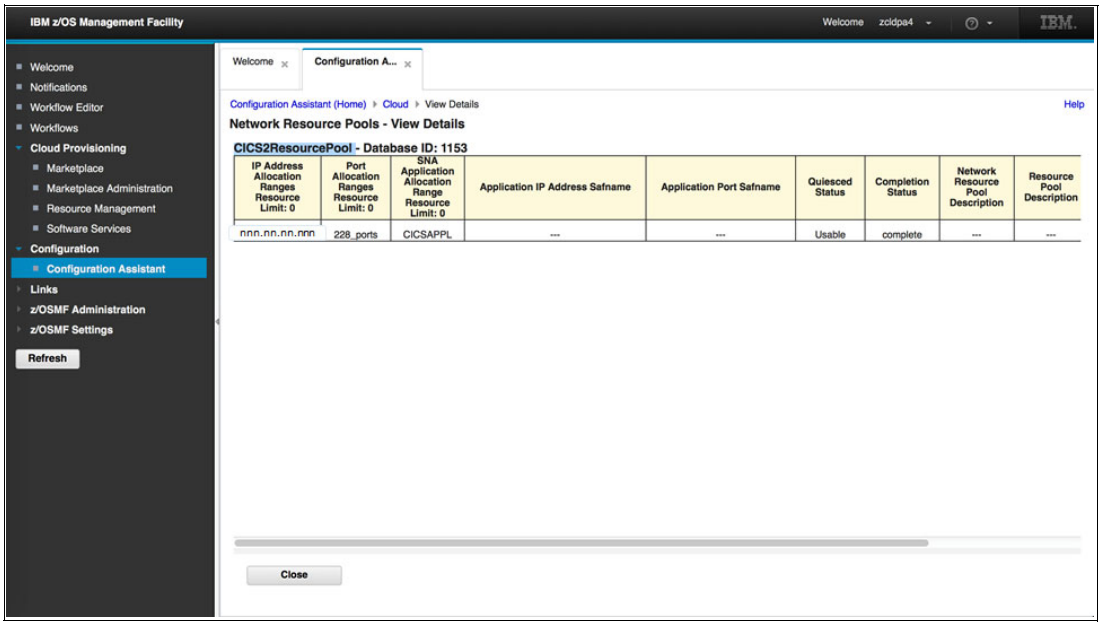


*Figure 3-15 Network resources details*

As network resource administrator, the user can assign the network resources into the network resource pool and create or modify the network resources by clicking the tabs under the cloud domain, then clicking the Actions menu.

The IP address Allocation Ranges can be modified, as shown in Figure 3-16.

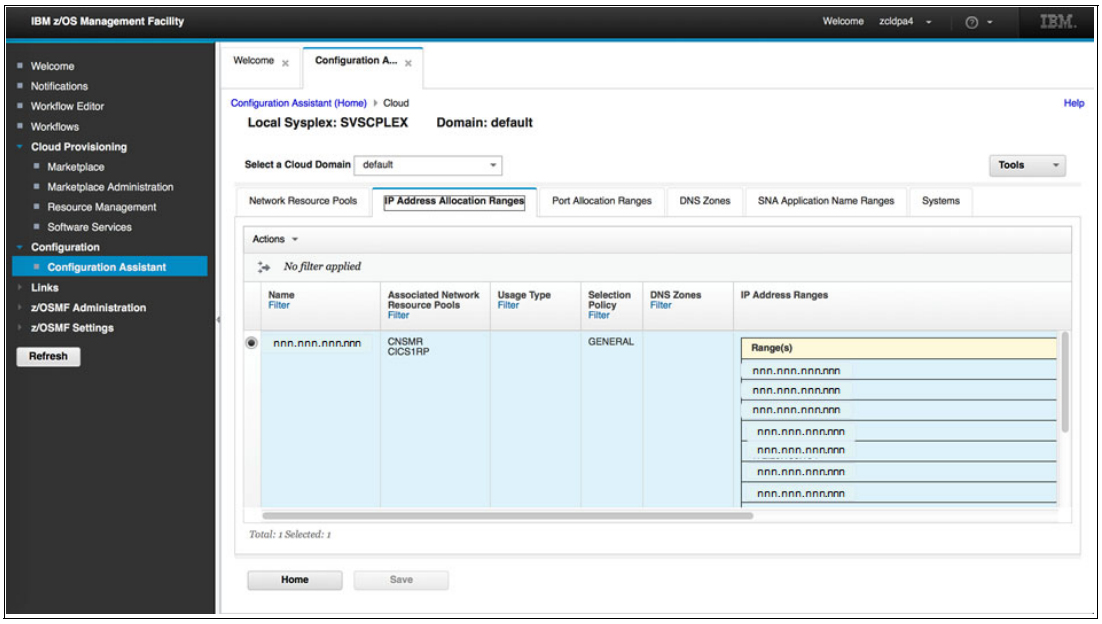


*Figure 3-16 Modifying the IP address Allocation Ranges*

The Port Allocation Ranges also can be modified, as shown in Figure 3-17.

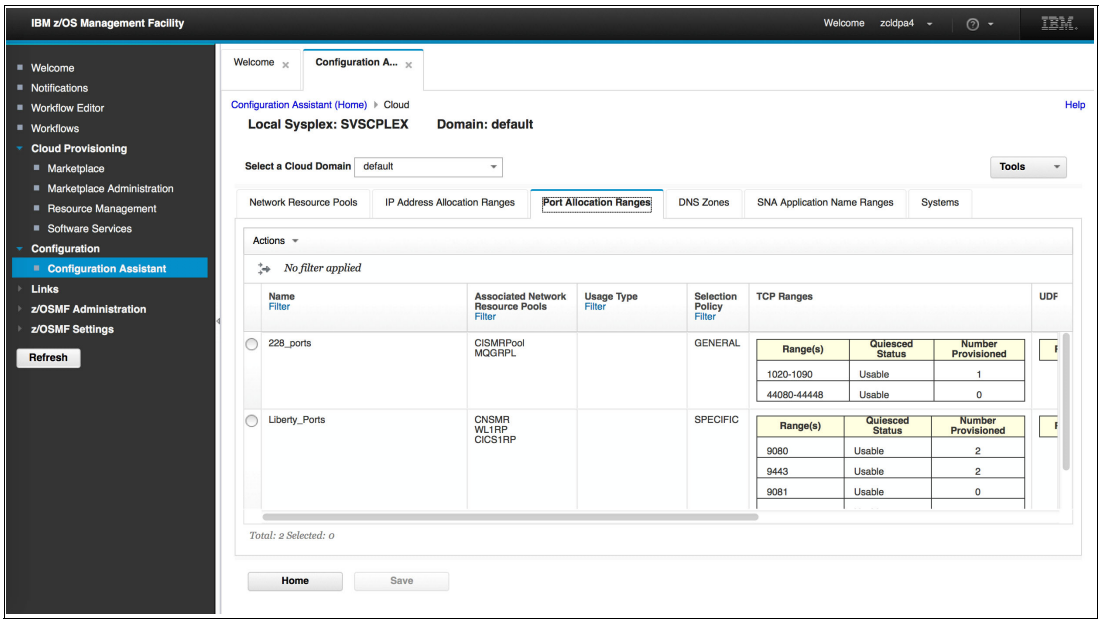


*Figure 3-17 Modifying the Port Allocation Ranges*

The network resource pool completion status is now complete and the network resources are connected to the resource pool that is named `CICS2ResourcePool`, which is used by the `CICS_SMSS_2` template.

4

# Approving the template

In this chapter, we describe how to approve the template.

# 4.1 Approve the software template

The template that we created is still in Draft Pending Approvals status. The domain approver must approve the creation process before we can use the template to provision one instance. In our scenario, the user ID of domain approver role in z/OSMF is ZCLDPA5.

Now, we click **Switch User ID** and enter `ZCLDPA5` and its password to log in.

We expand the Cloud Provisioning category and click **Software Services** from the left navigation. Then, we click the **Templates** tab. The state of the template is still in “Draft Pending Approvals”, as shown in Figure 4-1.

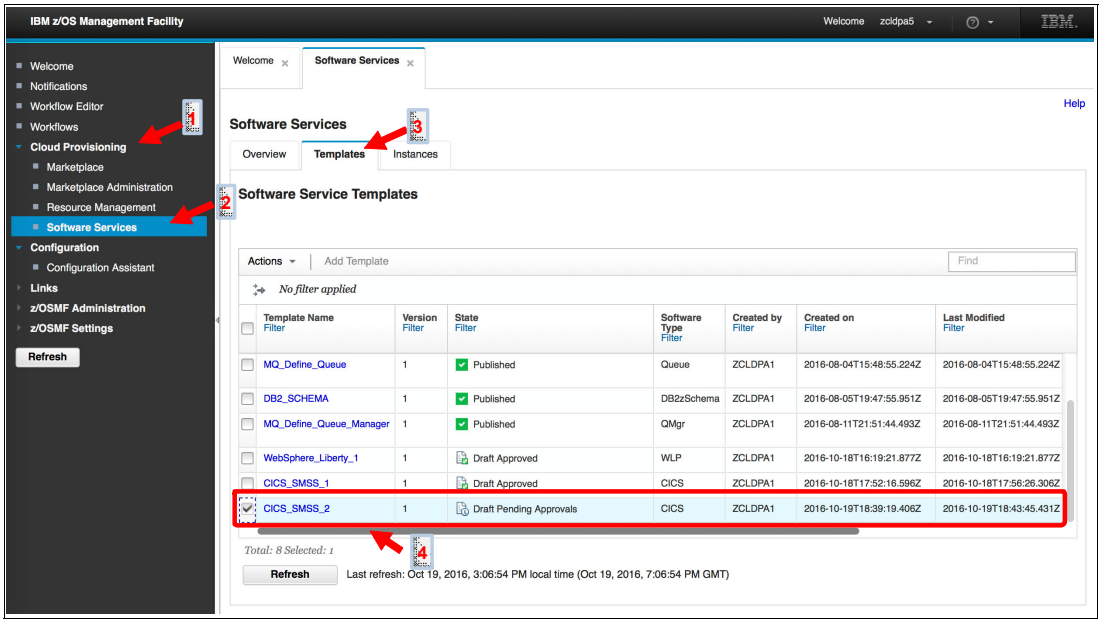


*Figure 4-1 Template status*

We can perform the approval. We select the template then click **Actions** to display a menu. We select **Approvals**, as shown in Figure 4-2.

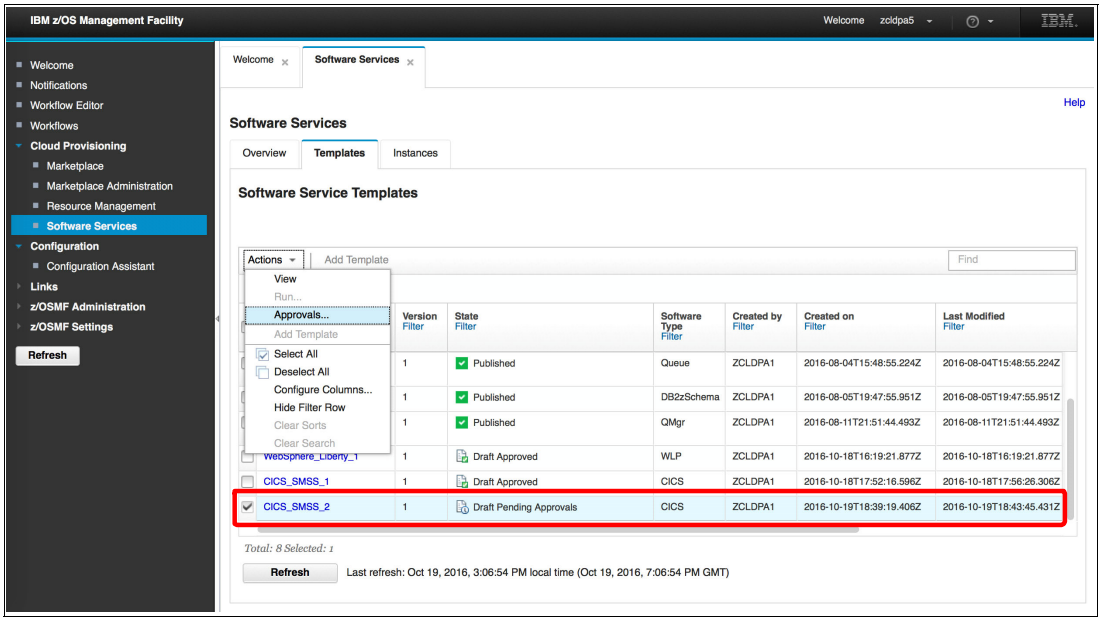


*Figure 4-2 Approvals option on the Actions menu*

The Approvals page (shown in Figure 4-3) shows the approvals that are required for the template. We can see the domain approver user ID for that template is `ZCLDPA5` in the first column of the Approvers table.

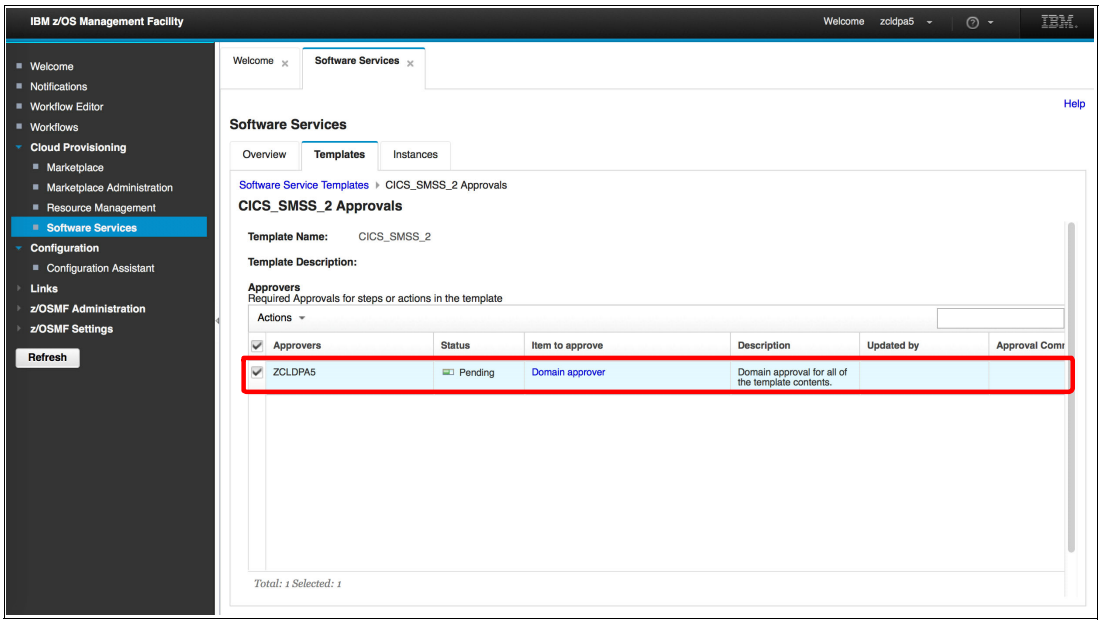


*Figure 4-3 Approvers*

In this scenario, the approval owner is the domain approver. In other cases, the approvals might be required for individual workflow steps or for actions.

We select the user ID in the Approvers table, then click **Actions** to display a menu. We then select the **Approve** or **Reject** menu, as shown in Figure 4-4.

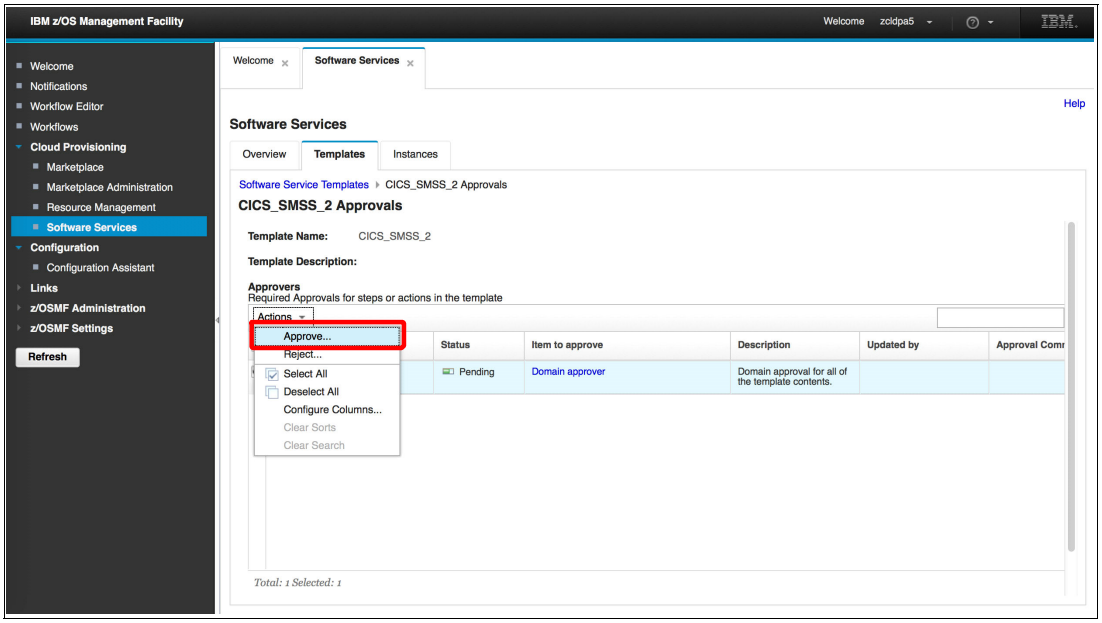


*Figure 4-4 Approval option*

A confirmation dialog is displayed after we select the **Approve** menu action. We approve the template creation request with comments, as shown in Figure 4-5.

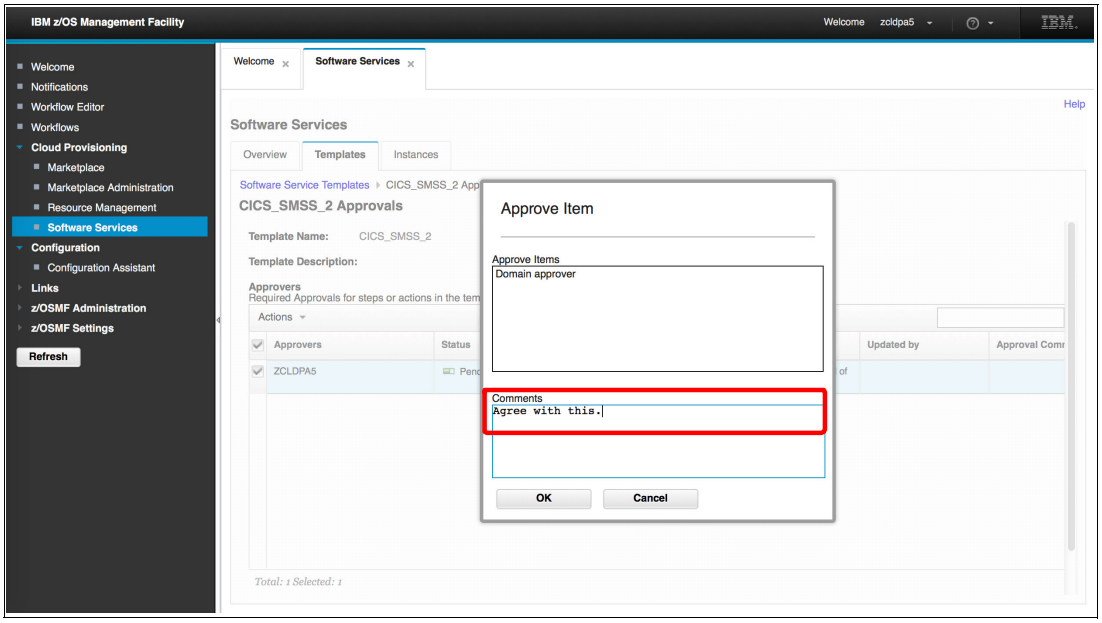


*Figure 4-5 Approval confirmation and comments*

We click **OK** and the approval process is complete. The status is updated to “Approved” in the Template tab, as shown in Figure 4-6.

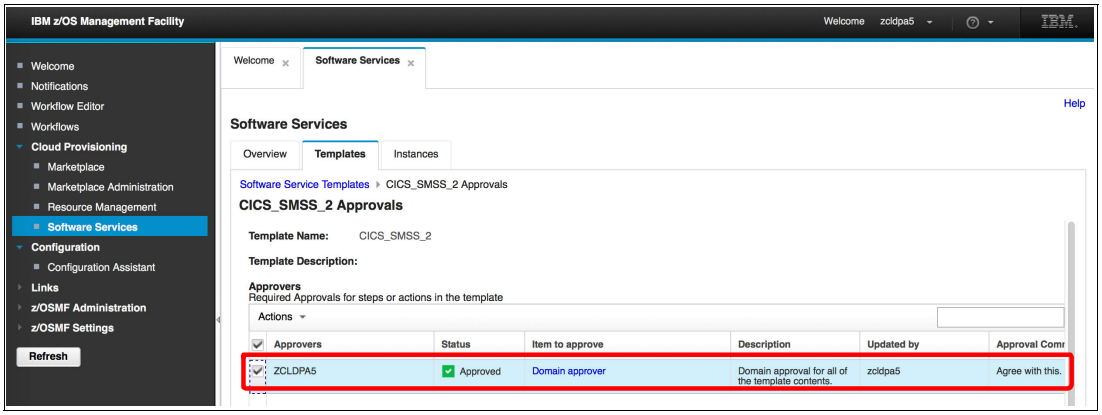


*Figure 4-6 Approved status*

We switch to service provider user ID ZCLDPA1and log in. The provisioning template state changed from “Draft Pending Approvals” to “Draft Approved”, as shown in Figure 4-7.

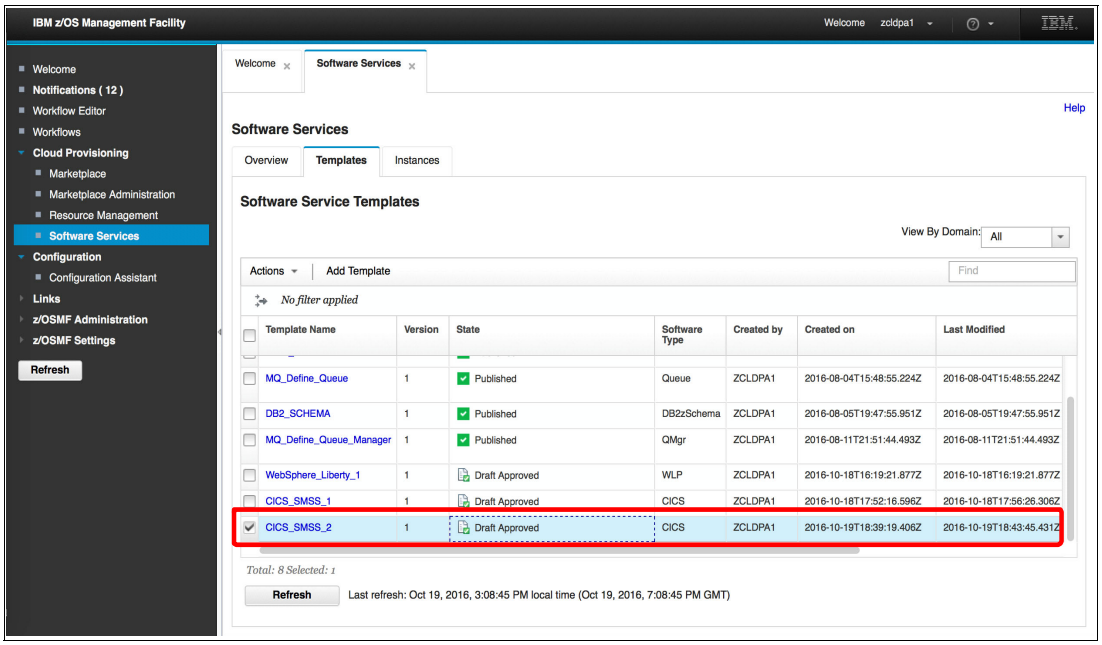


*Figure 4-7 Template view shows Draft Approved*

Our template is ready to use after the approval process is complete.

5

# Testing and publishing the template

The template is published into the software marketplace and is available to be used by a service consumer who wants to provision a CICS TS SMSS instance.

In this chapter, we describe the process to test and publish the template. This chapter includes the following topics:

# 5.1 Testing the software provisioning template

Before we can publish or send out this template for use, we can perform a test run of the new template to ensure that we can provision one CICS TS SMSS instance as expected. The template must be “Draft Approved”, as shown in Figure 5-1. The Test Run task is an important step before we can make the template available to our service consumers.

We log in as z/OSMF service provider user ID(ZCLDPA1) and select the template that we created. We click **Actions** → **Test Run...**, as shown in Figure 5-1.

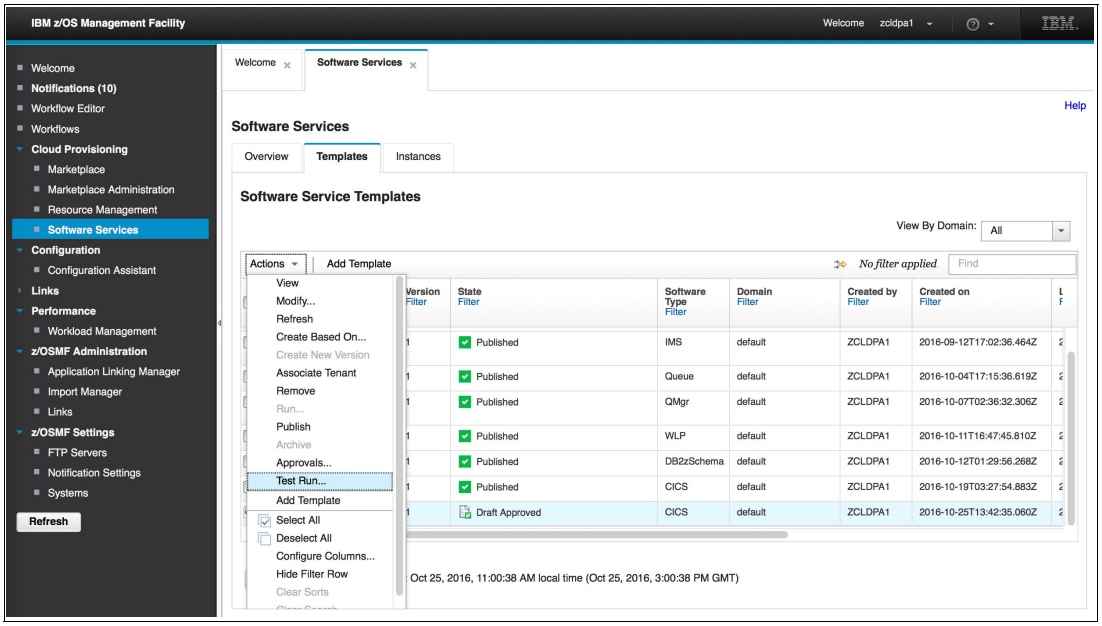


*Figure 5-1 Selecting the Test Run menu option*

The test run window opens (see Figure 5-2), which shows the properties of the template. We need to verify that the Associated Tenant is set to default and that the Account information is the account number or department information.

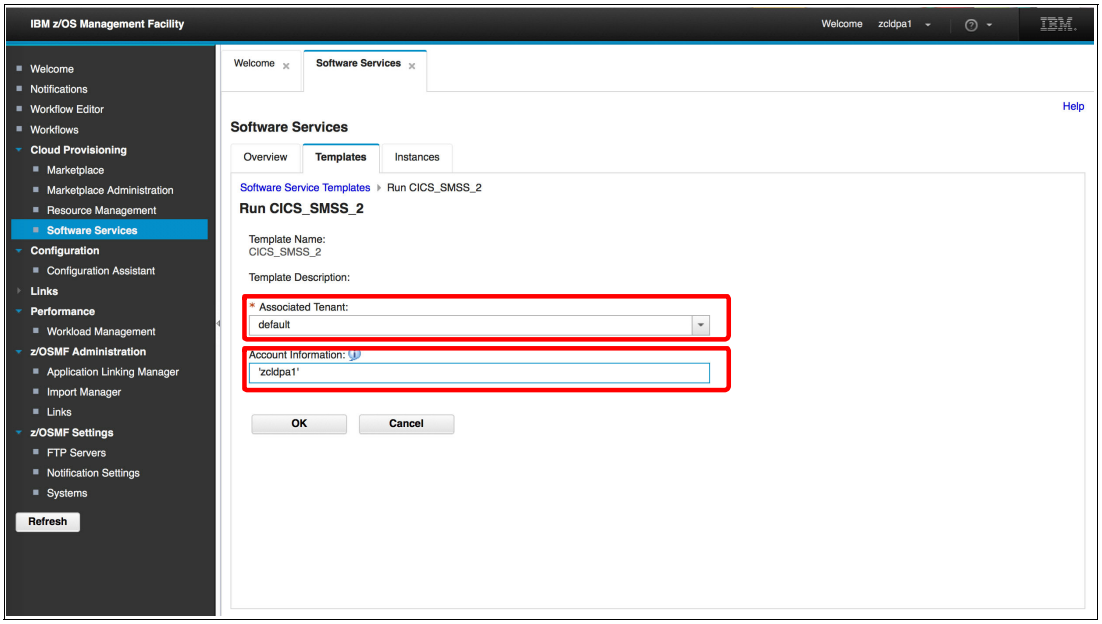


*Figure 5-2 Template properties*

We confirm that these values are correct and click **OK**.

The Software Service instances window opens, as shown in Figure 5-3. A message indicates the name of the software services instance (`CICS_CICZ000`) that is started. The software services instance that is created is shown in the table in the window. The status column begins as “Being-Provisioned”. When the provisioning is successful, the state changes to “Provisioned”. If there is an error, the state changes to “Failed” and we must refer to the notifications and diagnose the cause of the failure.

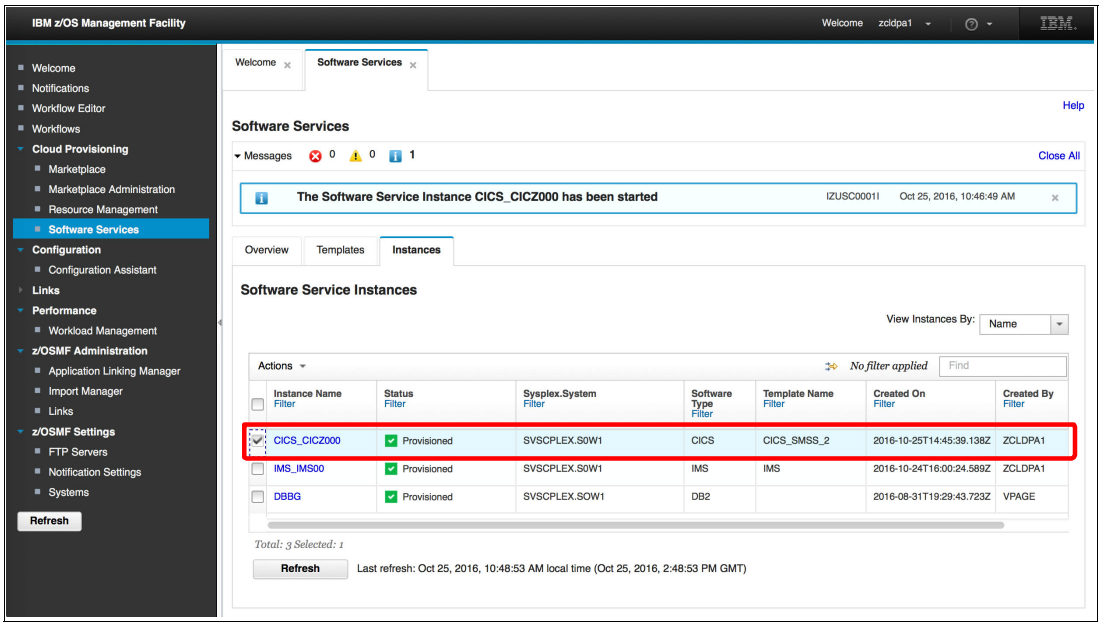


*Figure 5-3 Software instance testing status information*

To verify that the template successfully provisioned the `CICS TS SMSS` instance, we can view the properties and variables of the instance by clicking the instance name in the table of the instance tab page, as shown in Figure 5-4.

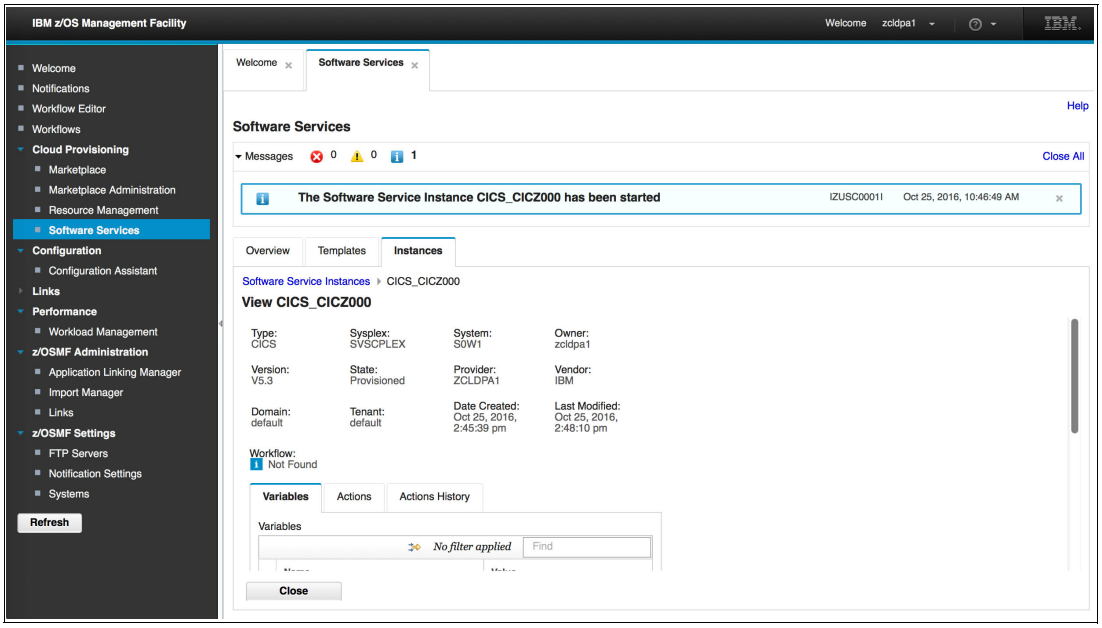


*Figure 5-4 Verifying the instance status*

An alternative way to verify the successful provision is to click **Marketplace** and expand the **My Subscriptions** list to view the detailed information about that new instance, as shown in Figure 5-5.

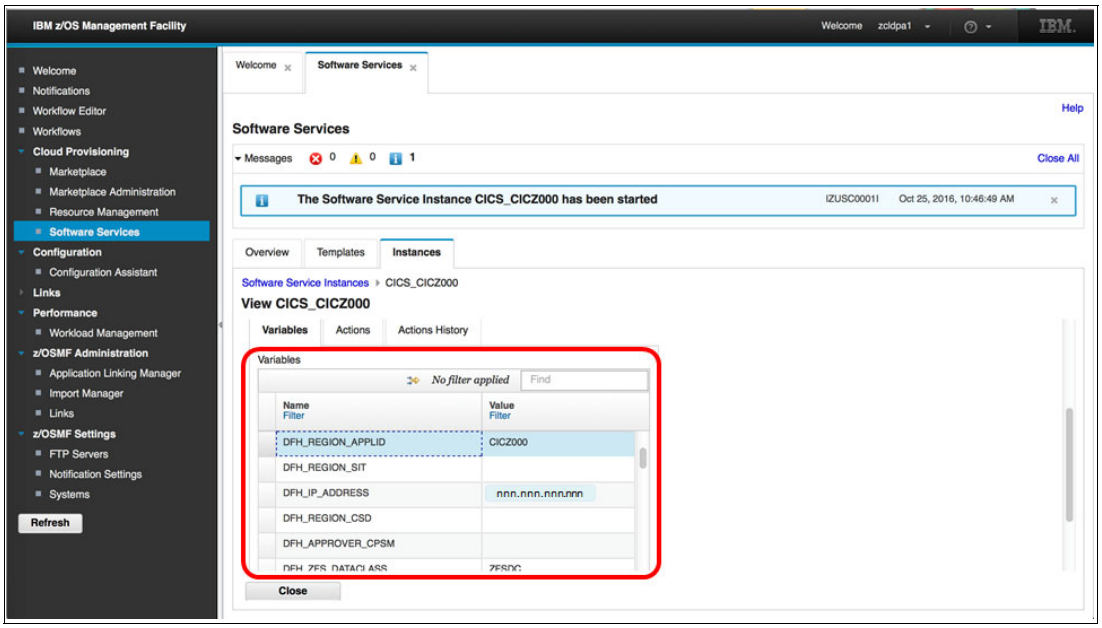


*Figure 5-5 Verification via the Marketplace*

We also log in to our z/OS TSO environment and use SDSF to check that the CICS TS SMSS instance is running by verifying that the CICS region address space is active, as shown in Figure 5-6.

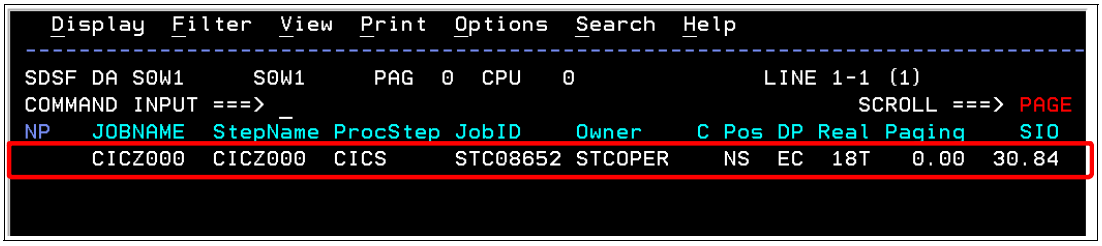


*Figure 5-6 Using the SDSF to check that the instance stared*

We also check the job log messages to confirm that the instance is running as expected, as shown in Figure 5-7.

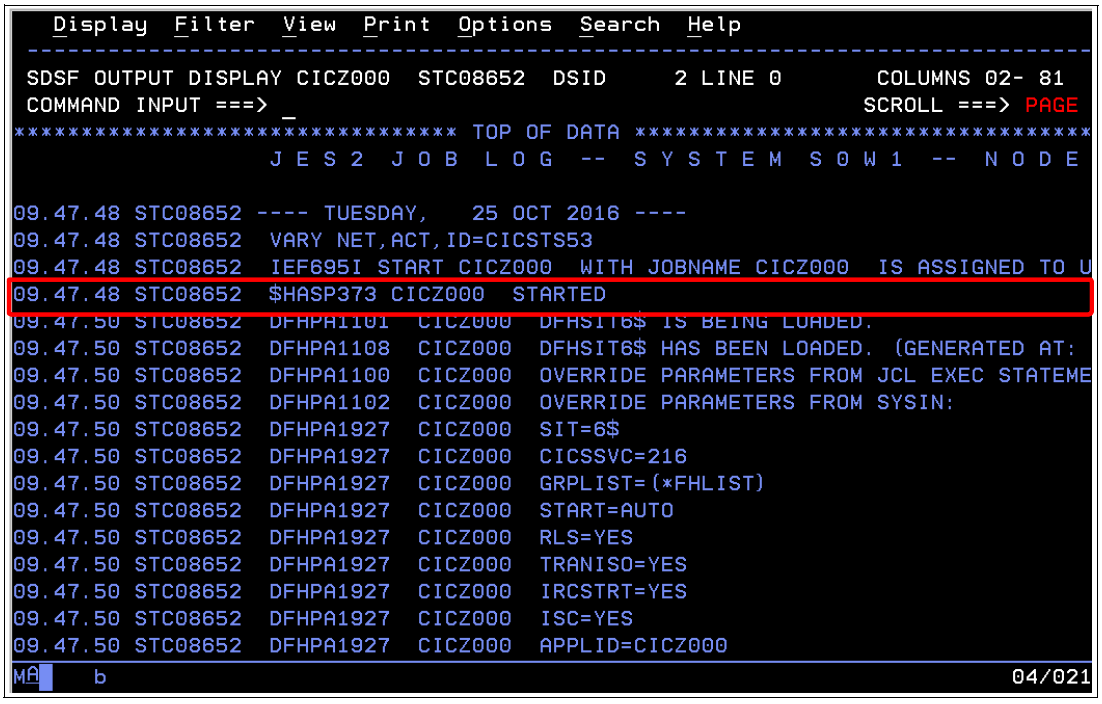


*Figure 5-7 Checking Job Log messages*

We confirmed that the template is ready for use.

## 5.2 Deprovisioning the service

We deprovision the test run instance because it is no longer required.

We select the provisioned instance from the table, click **Actions** to display the menu, and select **Perform** to deprovision. The actions that are available with Perform submenu are defined in the actions definition file, which is associated with the template. These actions often include Deprovision, Start, and Stop, as shown in Figure 5-8.

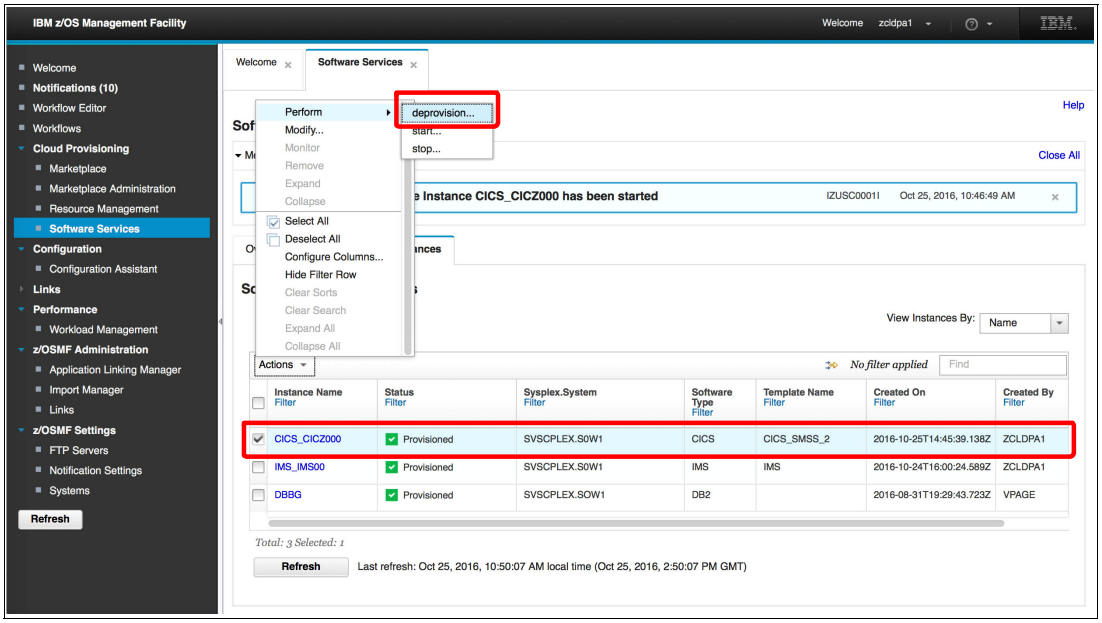


*Figure 5-8 Preparing the instance deprovision*

The Perform window that is shown in Figure 5-9 shows information about the action that is being performed. We click **OK** to deprovision the instance. We then click **Return** to return to the Instances tab.

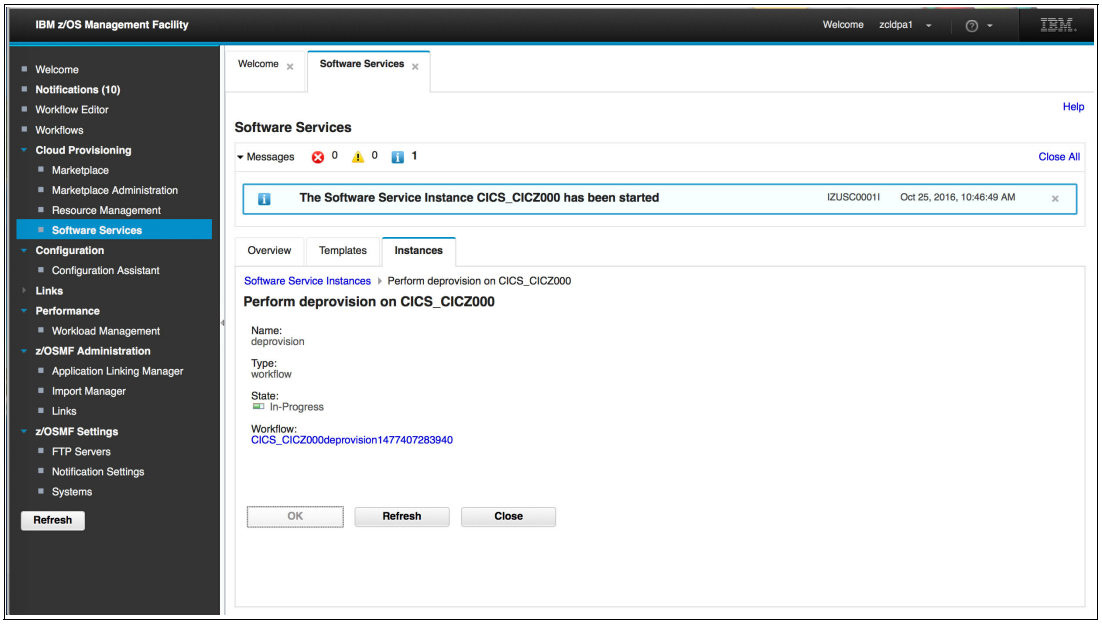


*Figure 5-9 Performing the deprovision*

The status of the software service instance is “deprovision-in-Process”, as shown in Figure 5-10. We scroll down and click **Refresh** until the status changes to “Deprovisioned”, which means the CICS TS SMSS instance was removed and the system resources were released.

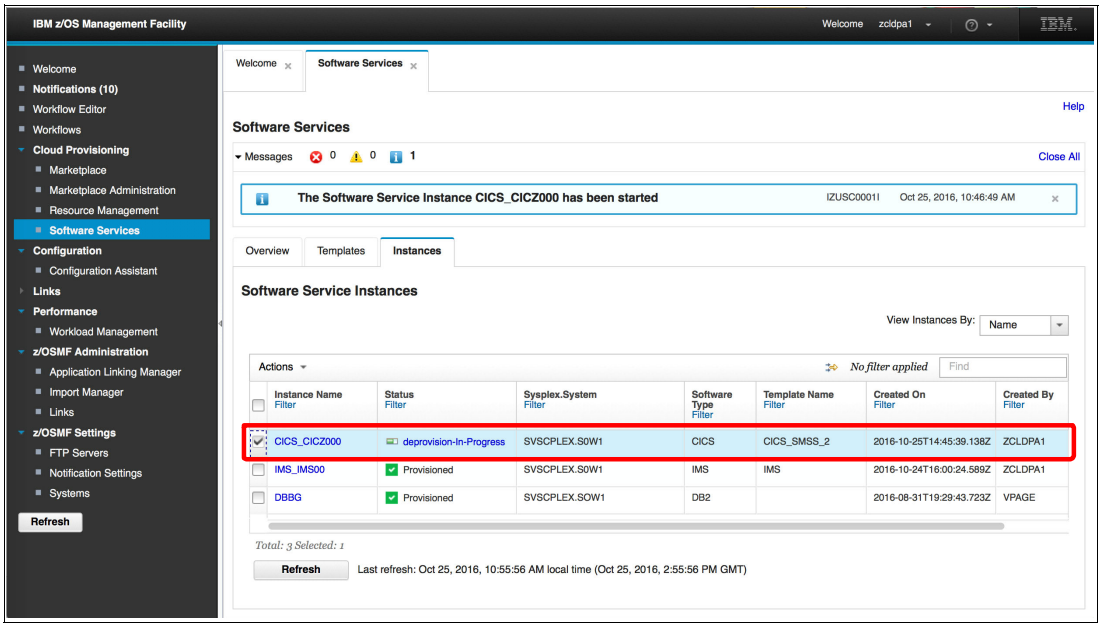


*Figure 5-10 Deprovisioning in progress*

To complete the cleanup, we must remove the instance from the table. We select the deprovisioned instance, click **Actions** to display a menu, then select **Remove**, as shown in Figure 5-11.

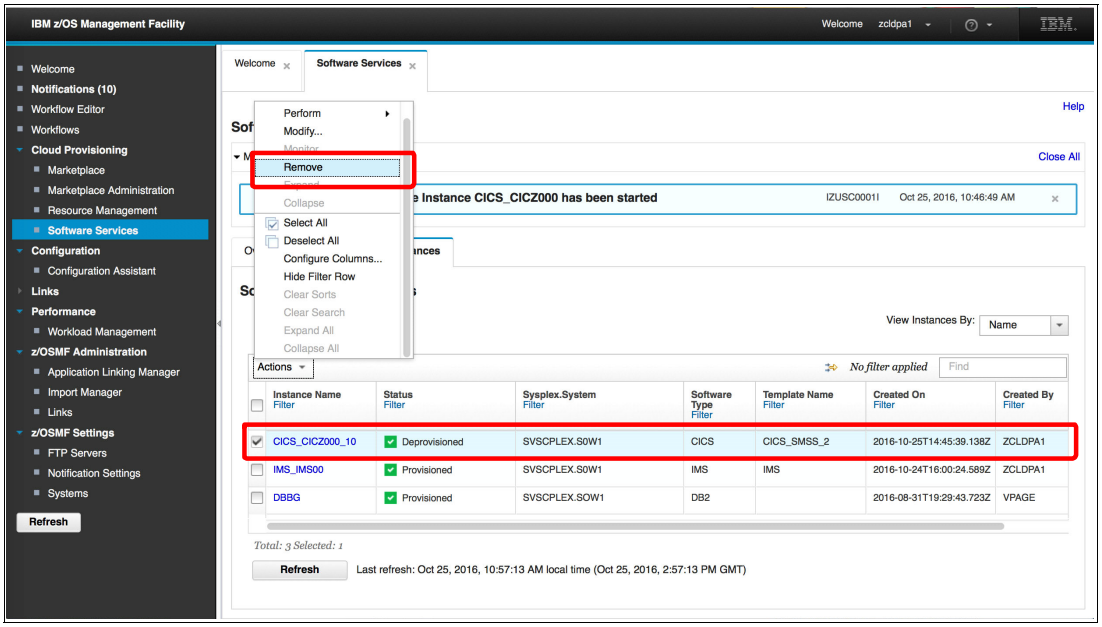


*Figure 5-11 Removing the instance*

A confirmation dialog in which we are prompted to confirm removing the selected resources is shown in Figure 5-12. We click **OK** to continue.

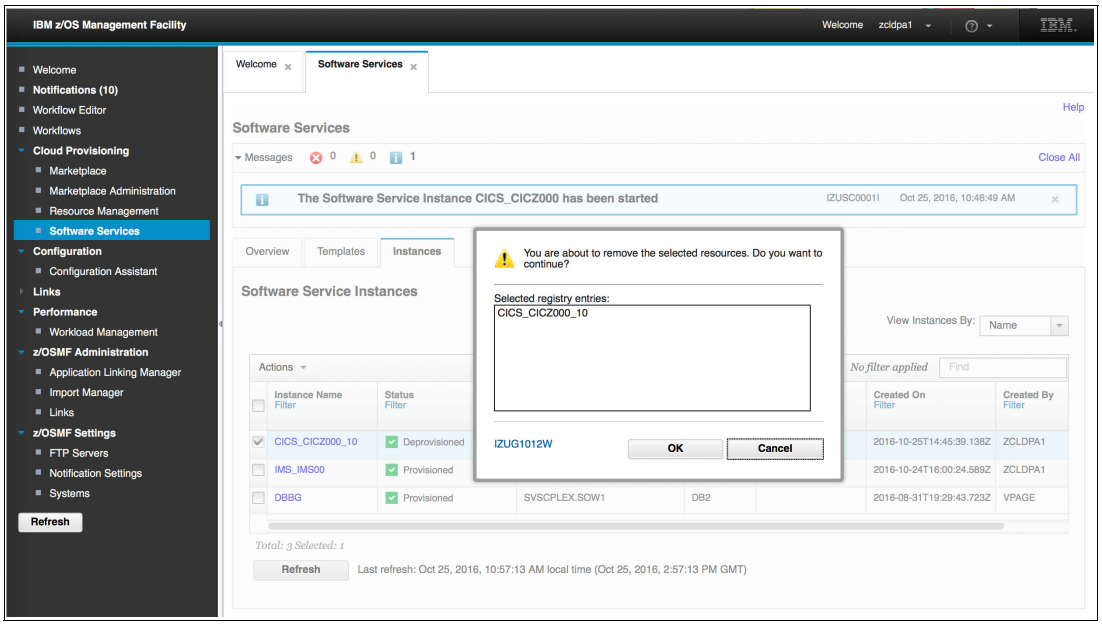


*Figure 5-12 Confirmation to remove the instance*

The CICS TS SMSS software instance now is successfully removed. The template can be made available to our service consumers.

## 5.3 Publishing the template into the Marketplace

To make the software services template available to service consumers, we must publish the template and optionally add the published template into the Marketplace.

**Note:** A template cannot be modified while it is in published status.

We select the `CICS_SMSS_2` template that we created from the software service templates table. We click **Actions** to display a menu and then, select **Publish**, as shown in Figure 5-13.

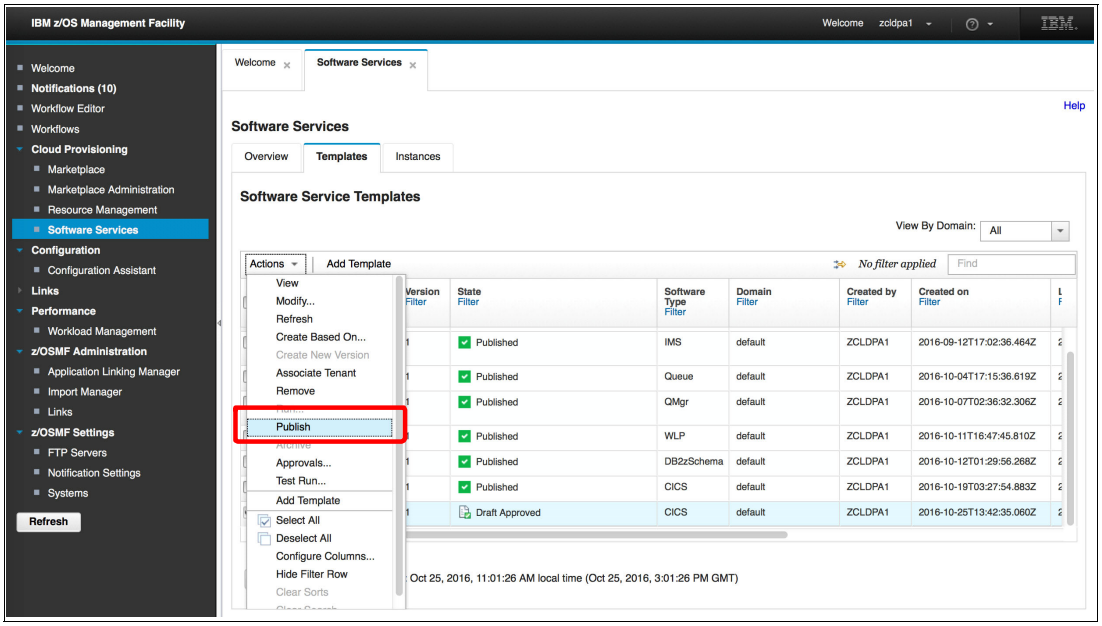


*Figure 5-13 Selecting the publish option*

As shown in Figure 5-14, the value in the State column changes to “Published”, which means that the template is available to consumers now. The template is also locked and no further changes can be made to that template.

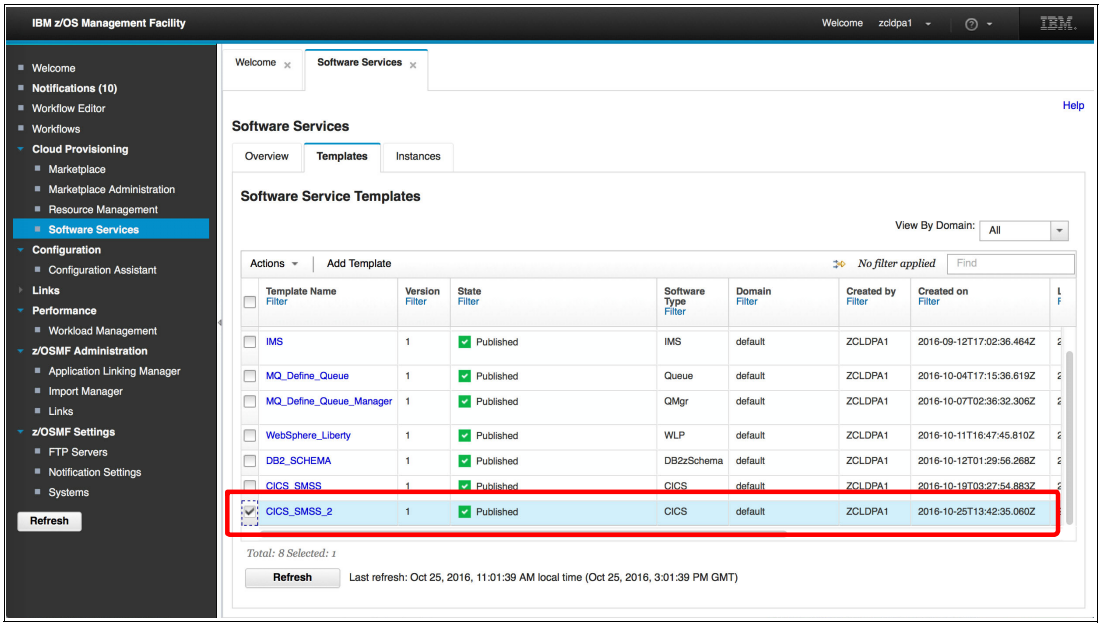


*Figure 5-14 Template is published*

To add the published template into Marketplace, we browse to Marketplace Administration from the left pane and click the **All Services** tab, as shown in Figure 5-15.

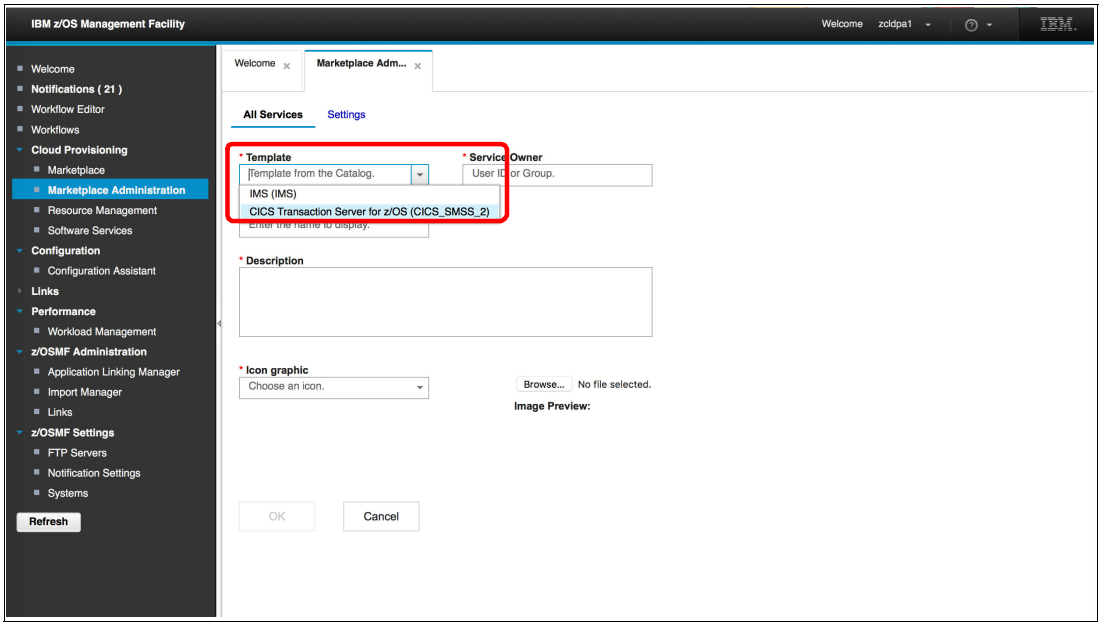


*Figure 5-15 Display the Marketplace services*

We select the `Server for z/OS (CICS_SMSS_2)` template and enter the name in the Published Service Name field. Optionally, we can enter some descriptions about the services that are provided by this software. We also can browse and upload one icon image with this service, as shown in Figure 5-16.

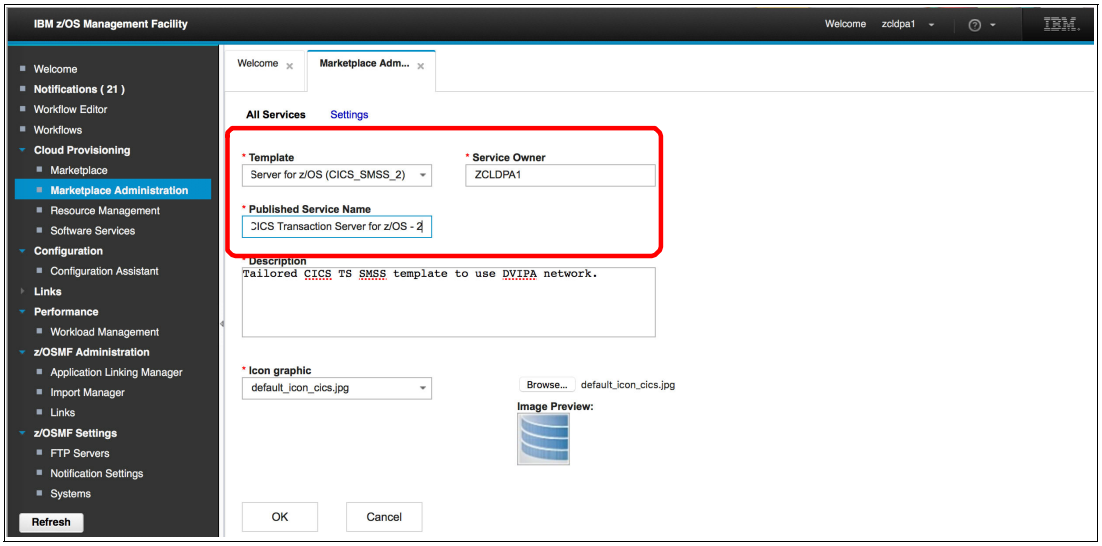


*Figure 5-16 Selecting the Template and Published Server Name*

We click **OK**. The template is created in the Marketplace and available for consumers to subscribe to, as shown in Figure 5-17.

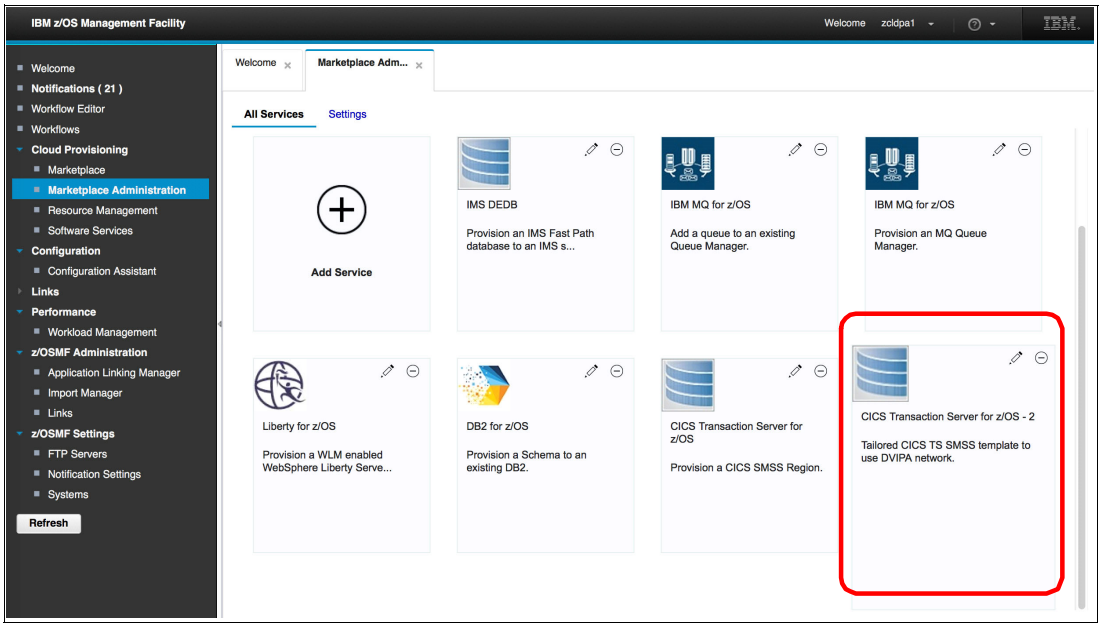


*Figure 5-17 Subscription available*

6

# Using the service as a consumer

In this chapter, we describe the steps that are used to provision and deprovision a new stand-alone CICS region (SMSS) from a Service Consumer perspective by using the new z/OSMF Cloud Provisioning function that was created in Chapter 2, “Customizing the template” on page 9.

This chapter includes the following topics:

# 6.1 Subscribing to the service from the Marketplace

The Marketplace is where consumers visit to subscribe to the available services. A service must be approved and published to appear in the Marketplace. Subscription to an available service is the starting point for a service consumer. For more information about the consumer perspective, see Chapter 1, “Scenario introduction and basics” on page 1.

We log on to z/OSMF by using our User ID (Service Consumer credentials), and expand the **Cloud Provisioning** category and select **Marketplace**. The window that is shown in Figure 6-1 opens.

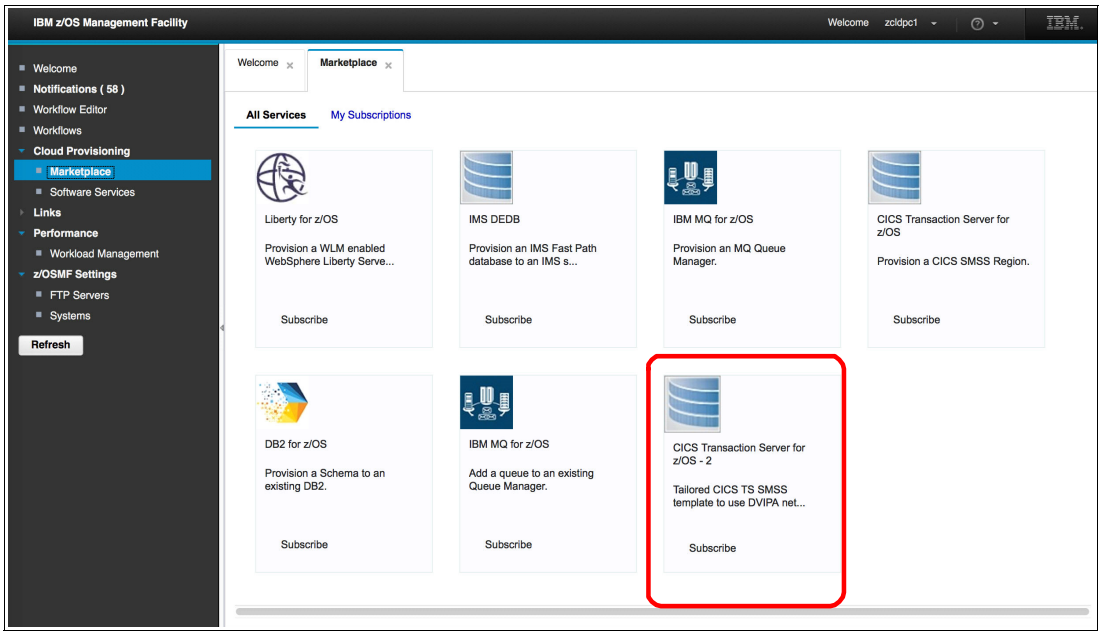


*Figure 6-1 Selecting the service from the marketplace*

The All Services tab shows the available subscription services. The service that we want to use is CICS Transaction Service for z/OS - 2. It uses the new CICS TS SMSS template.

We click **Subscribe** and the window that is shown in Figure 6-2 is opens.

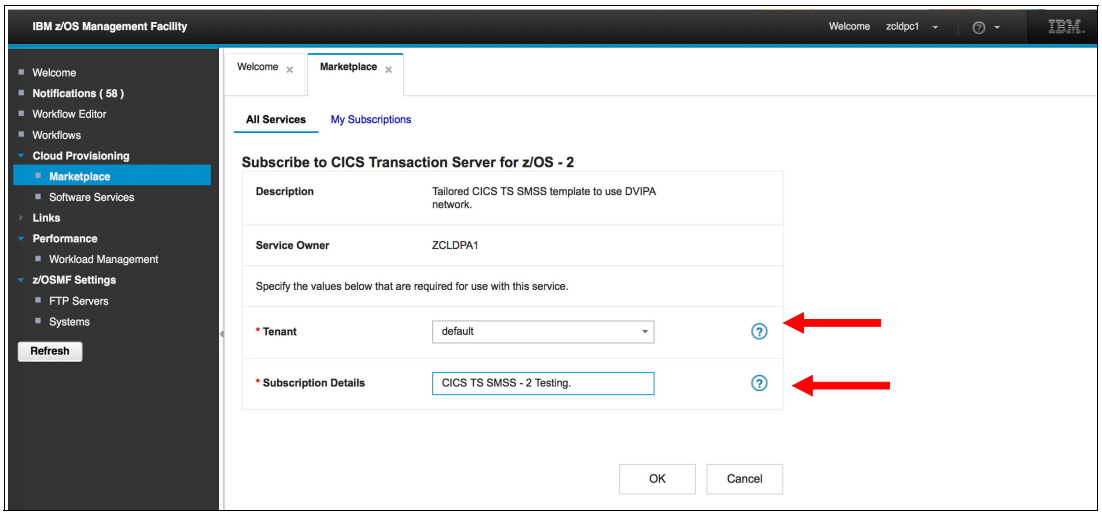


*Figure 6-2 Tenant and Subscription details*

We select a default tenant for this new CICS SMSS Region and enter a description in the Subscription Details field. Then, we click **OK**. A message appears in which we are informed that a new service is provisioned, as shown in Figure 6-3.

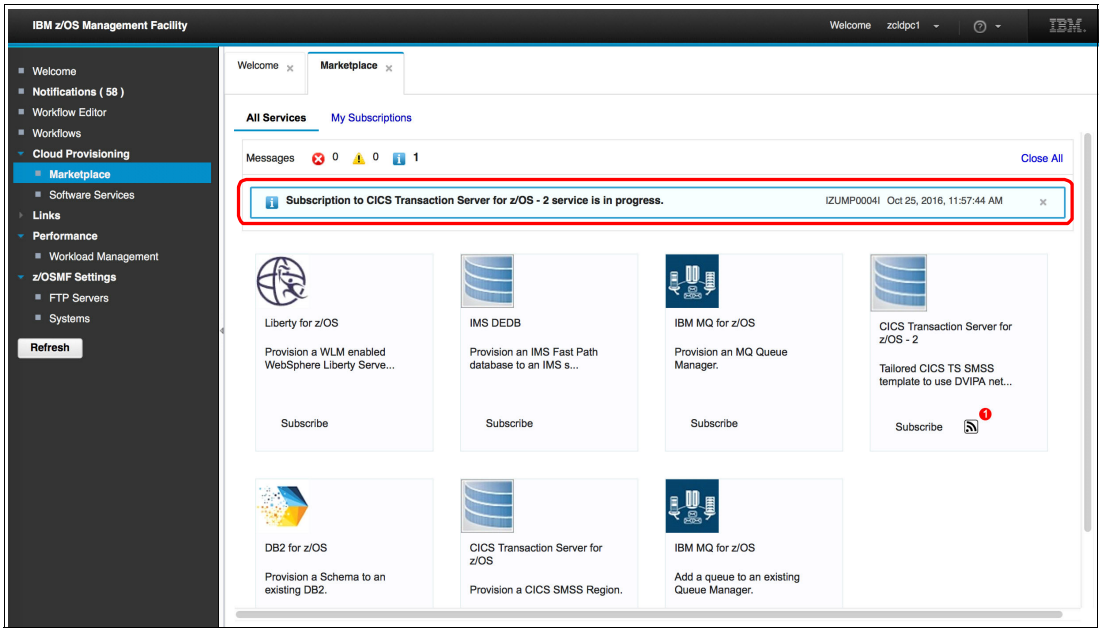


*Figure 6-3 Provisioning in progress*

We click the **My Subscription** tab to view the services to which we subscribed. We expand CICS Transaction Server for z/OS to verify the state of the new CICS region we are trying to provision, as shown in Figure 6-4. (The region is shown as being-provisioned in the State column.)

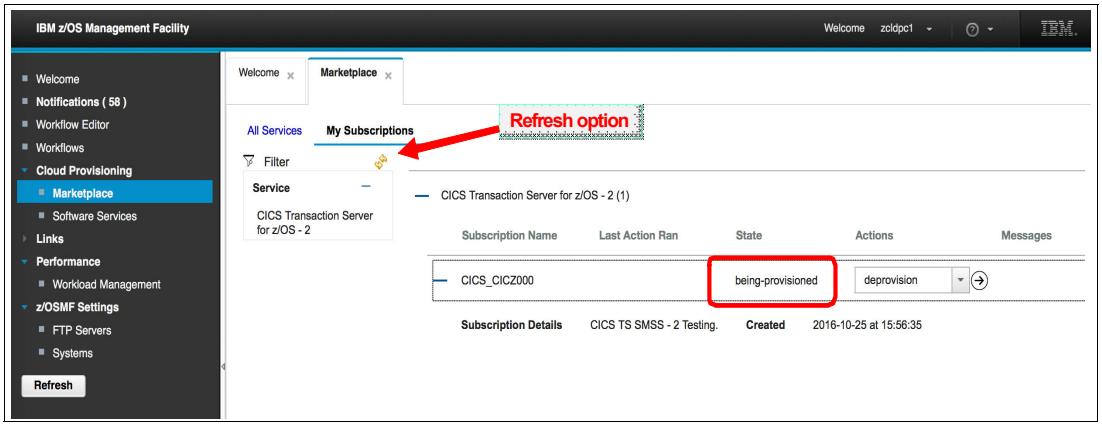


*Figure 6-4 State display and refresh option*

We click **Refresh** to update the display. The provisioning process completes and the State value changes from “being-provisioned” to “provisioned” and the details of our new CICS instance are available, as shown in Figure 6-5. Our provisioning process takes approximately 5 minutes to complete.

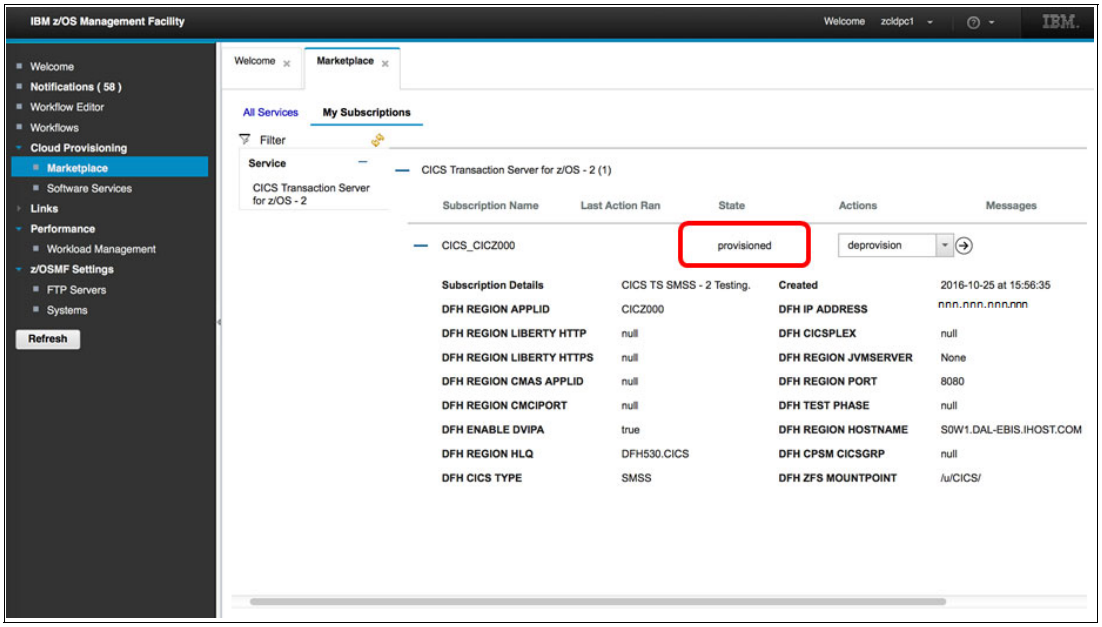


*Figure 6-5 Provisioned state*

We want to verify that our region is running. We log on to TSO and use SDSF to check whether the region successfully initialized, as shown in Figure 6-6.

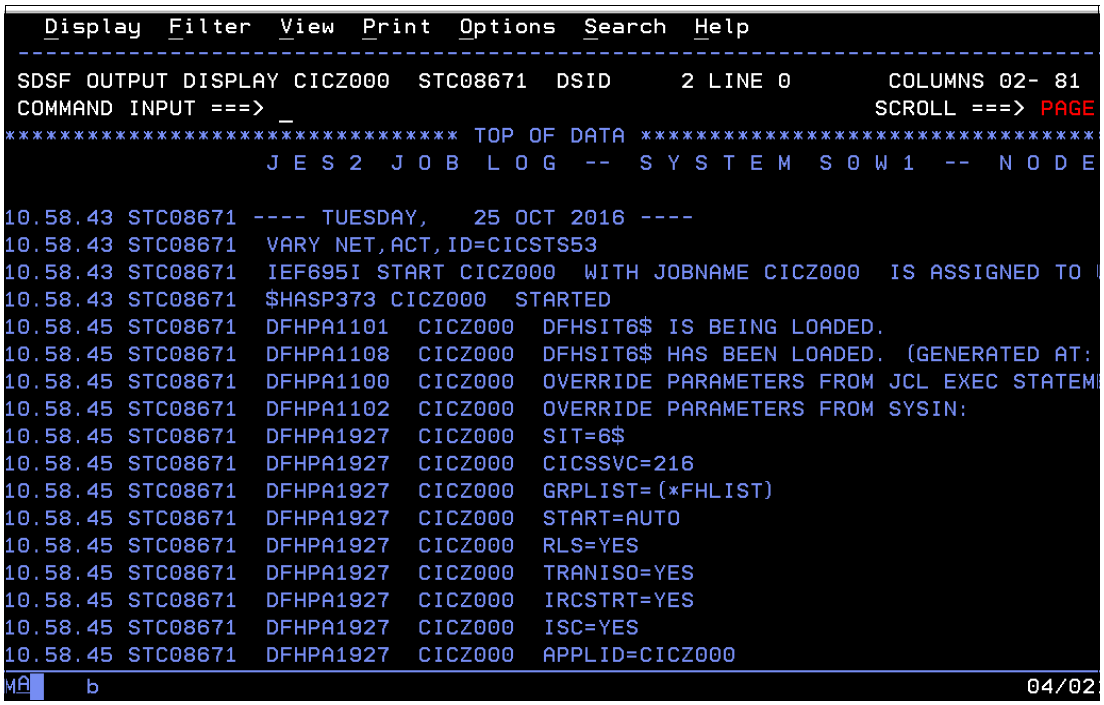


*Figure 6-6 Confirmation of CICS region start*

We are logged on as a Service Consumer and can perform different actions on our provisioned services.

In our example, we issue a **`Stop`** command for our CICS region by selecting the **stop** option in the Actions menu, and then clicking the arrow button, as shown in Figure 6-7.

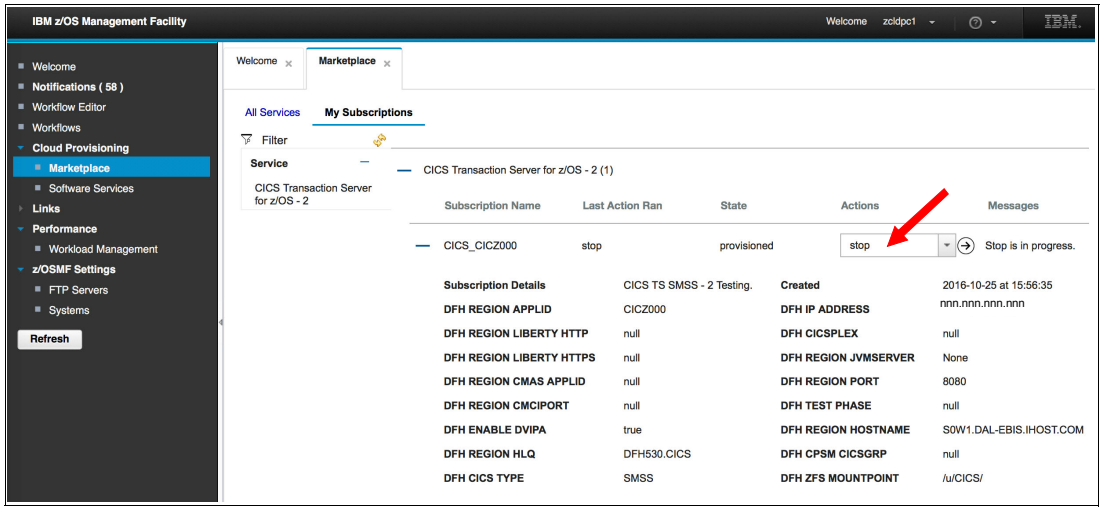


*Figure 6-7 Issuing a Stop command*

After the CICS region closes, a message is shown that indicates that the stop is complete. A message also is recorded into syslog for this operation, as shown in Figure 6-8.

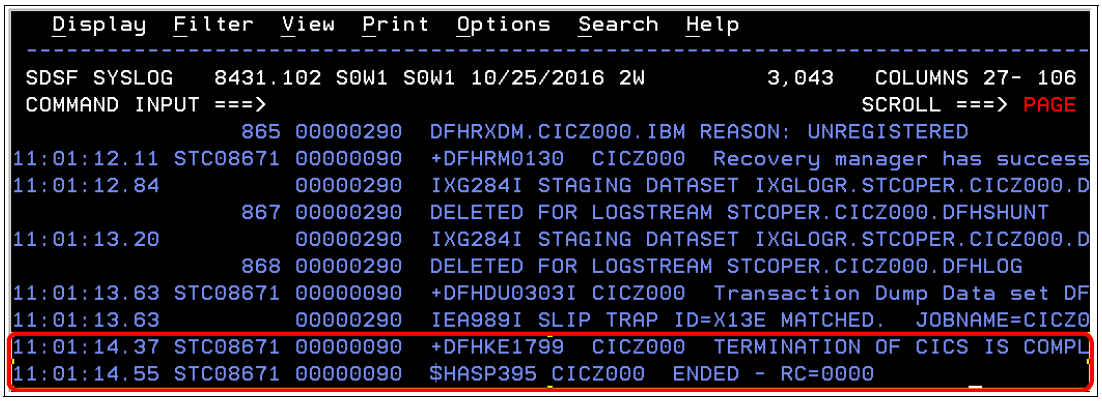


*Figure 6-8 CICS region stopped*

## 6.2 Provisioning the service from a template

Another way to provision a new CICS TS SMSS Region is by using the template, which was prepared by the Service Provider.

We log on to z/OSMF with Service Consumer credentials, expand the **Cloud Provisioning** category, and click **Software Services**, as shown in Figure 6-9. The Overview tab shows provisioned services and templates.

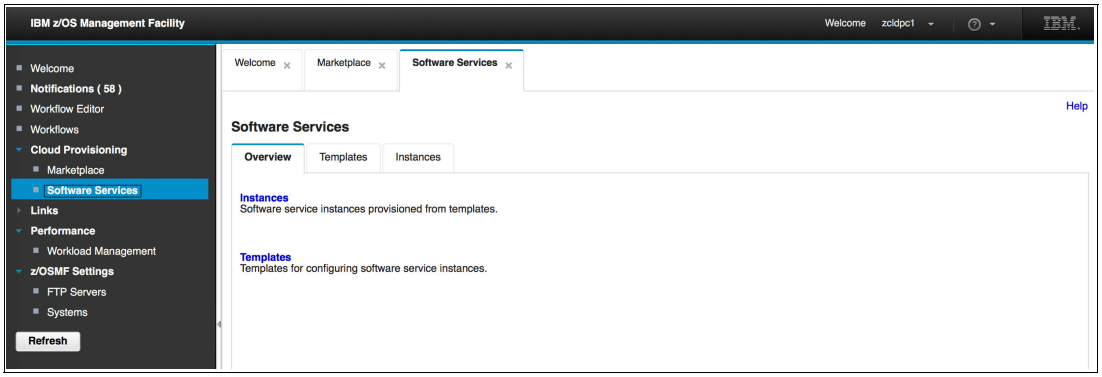


*Figure 6-9 Overview tab*

We click the **Templates** tab, then select the **CICS_SMSS_2** template. We know that the template is available to use because it is showing as “Published” in the State column, as shown in Figure 6-10.

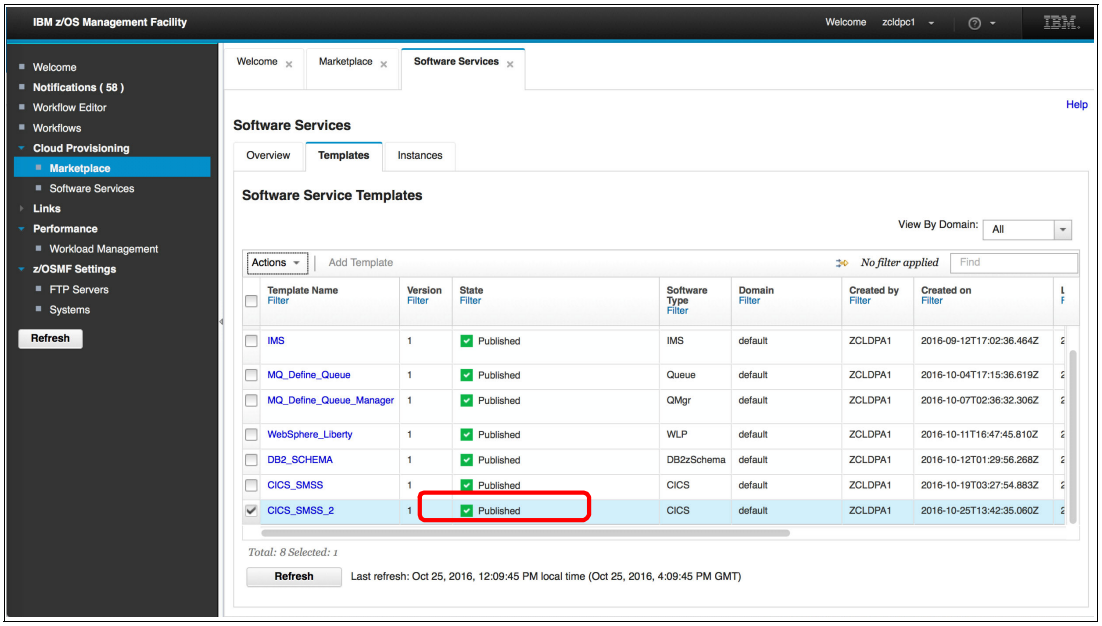


*Figure 6-10 Referencing the published template*

We click the **Actions** tab and select **Run...** from menu, as shown in Figure 6-11.

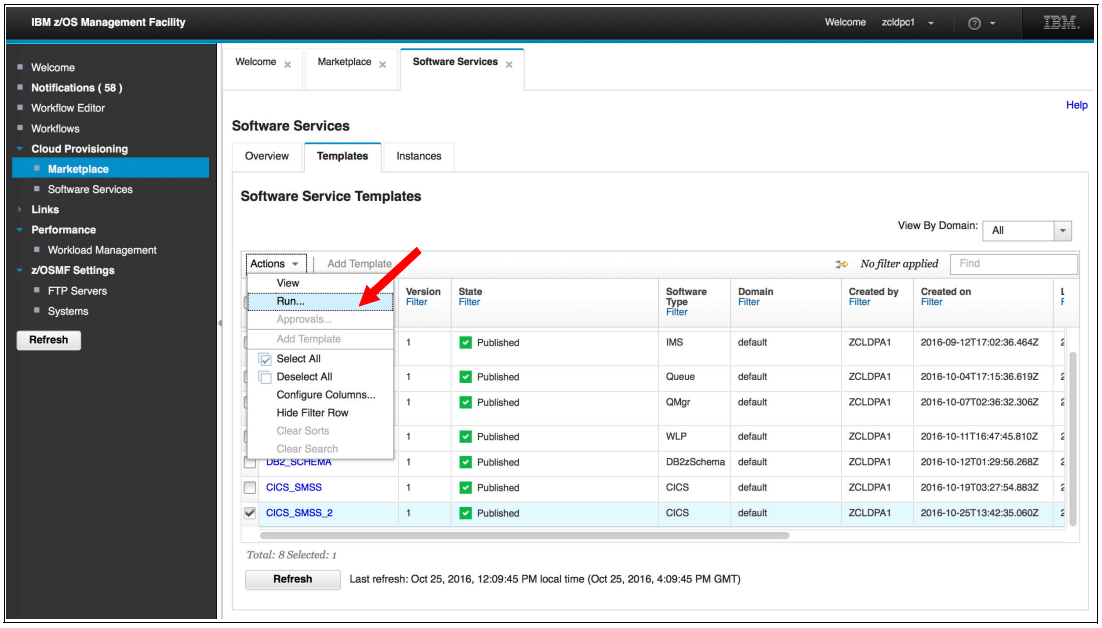


*Figure 6-11 Selecting the Run option*

The window that is shown in Figure 6-12 opens. We select the default tenant for the CICS TS SMSS Region, enter account information, and click **OK** to provision the new service.

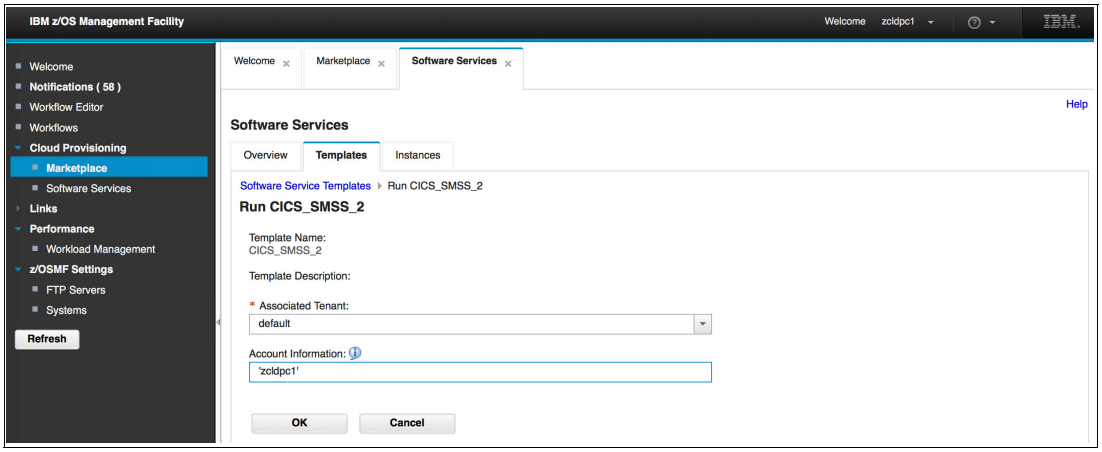


*Figure 6-12 Provide tenant and account information*

We click the **Instances** tab and it shows the new instance that is provisioned as indicated in the Status column, as shown in Figure 6-13.

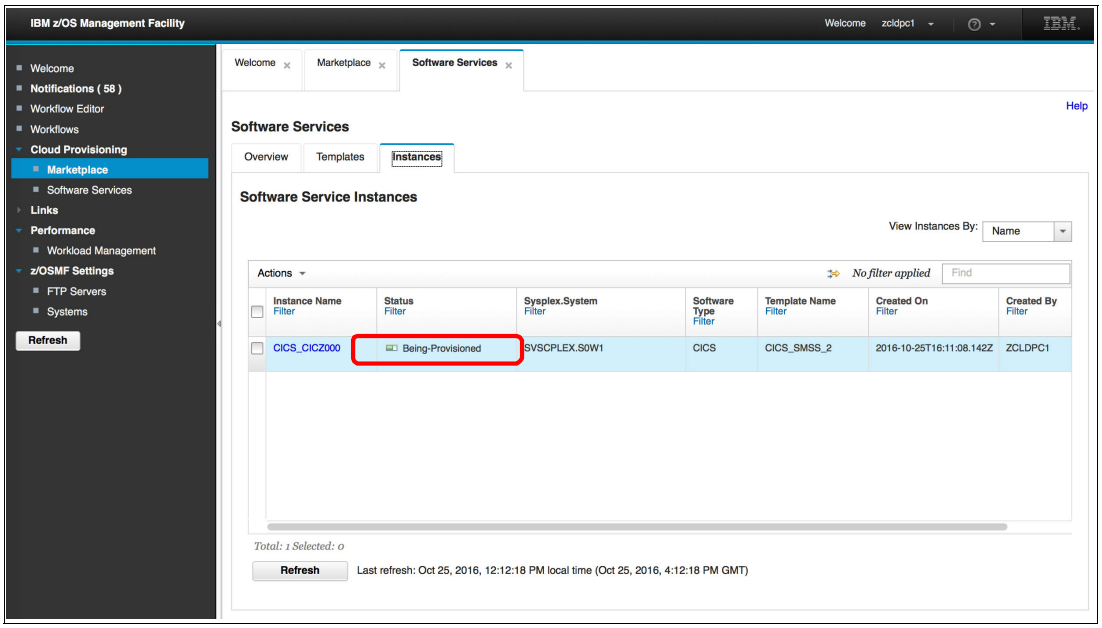


*Figure 6-13 Instances tab that shows Being-provisioned state*

We click **Refresh** until the Status for the new CICS SMSS Region changes to “provisioned”, as shown in Figure 6-14.

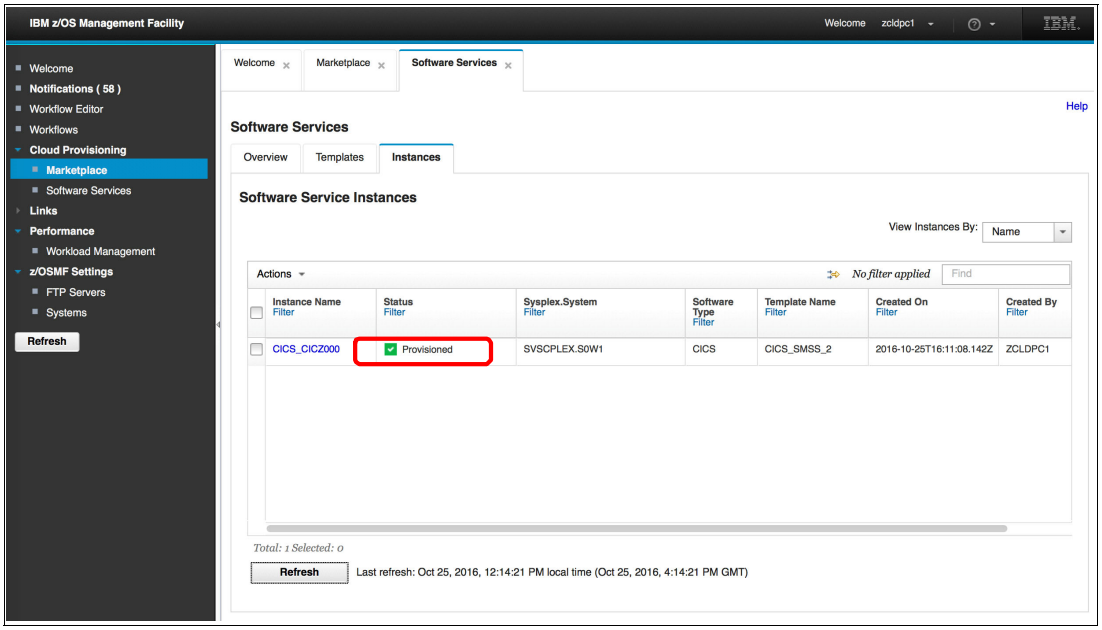


*Figure 6-14 Provisioned state*

We must know more information about our newly provisioned region. Click the **Actions** tab and the **View** option in the menu. The information is displayed as shown in Figure 6-15.

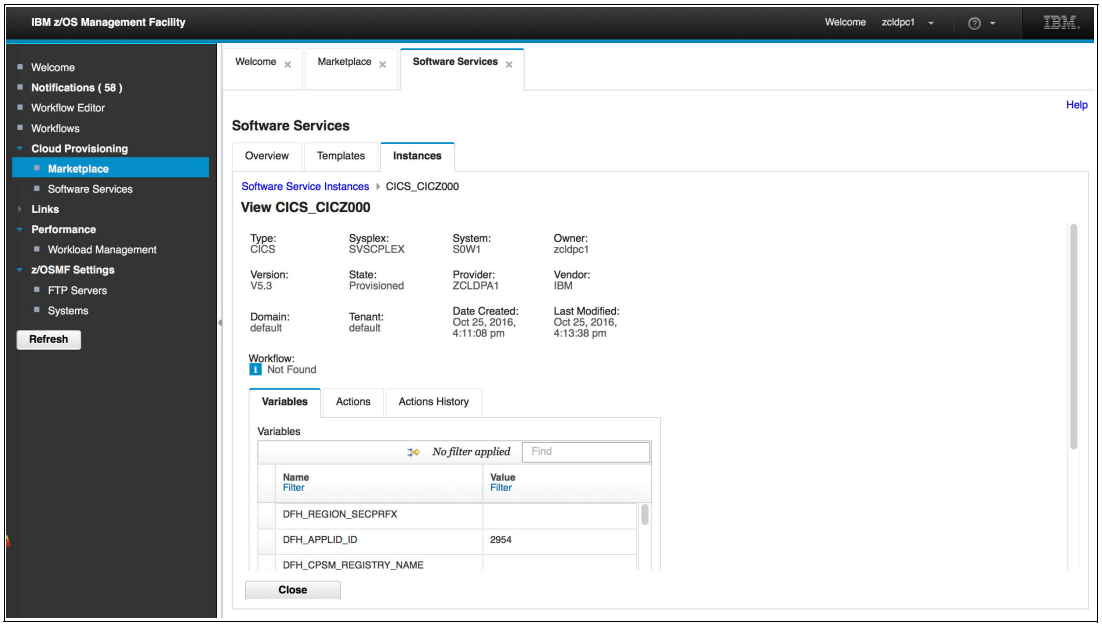


*Figure 6-15 CICS region information*

## 6.3 Deprovisioning CICS SMSS Region instance

We must deprovision our CICS TS SMSS region after we use it. Your project might be completed and there is no further use for the system.

If your local site uses a charge back for resources that are used by the project, we suggest you deprovision when the project has no further need for the region. By deprovisioning and removing our subscription, you free up elements in the resource pool. Those elements become available to other service consumers.

We go to the Marketplace and click the **My Subscriptions** tab. The page that is shown in Figure 6-16 opens.

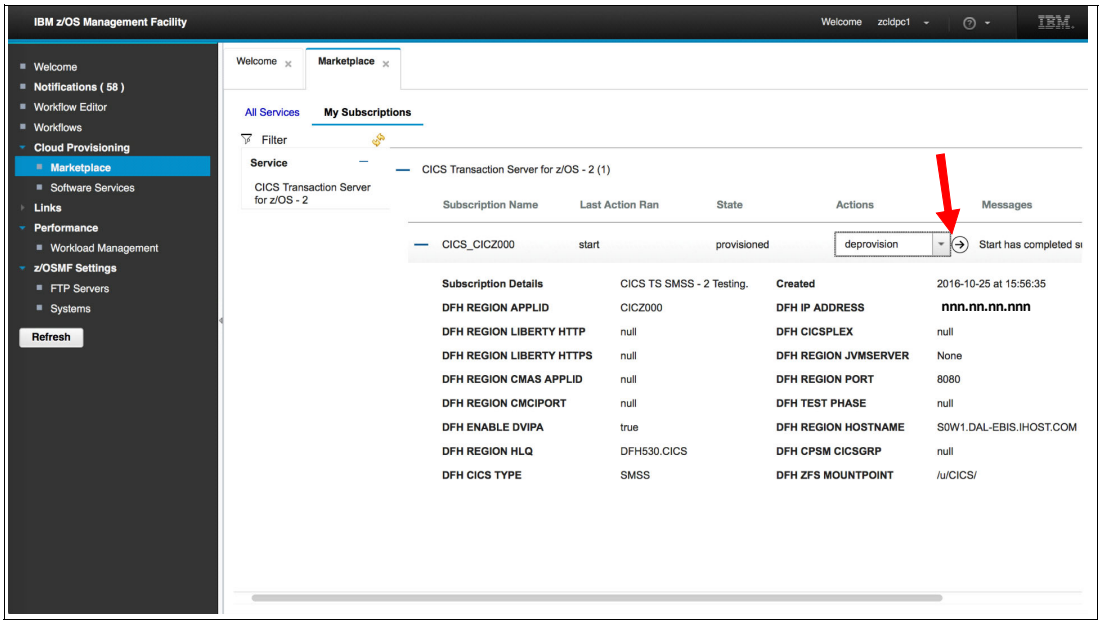


*Figure 6-16 Selecting the deprovision option*

In the Actions drop-down menu, select **Deprovision** and click the arrow that is to the right side of the drop-down menu. The page that is shown in Figure 6-17 opens.

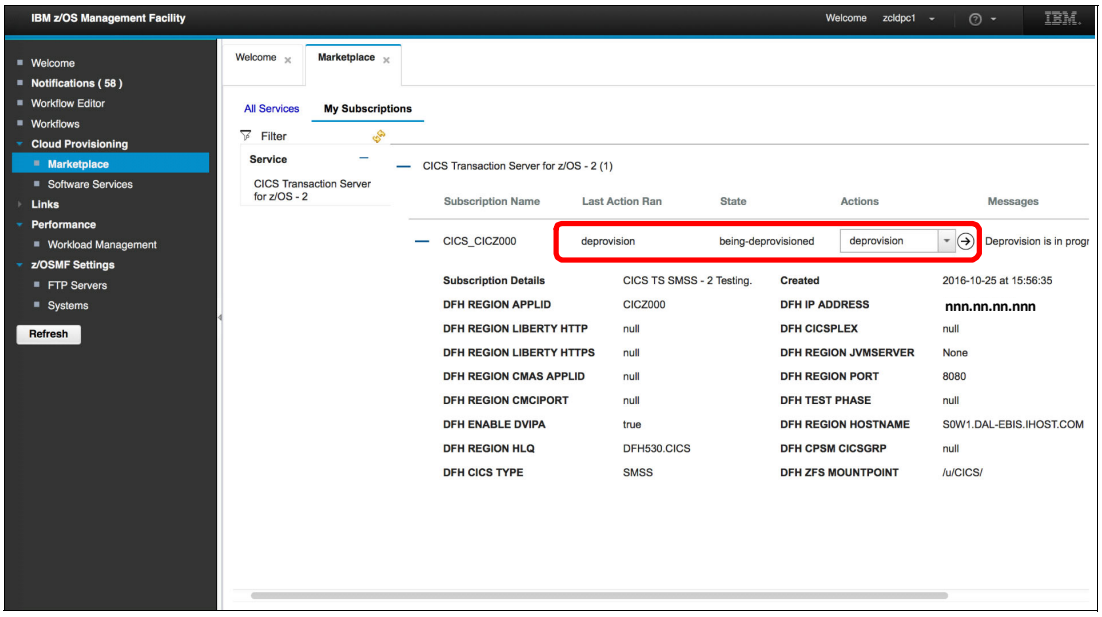


*Figure 6-17 Deprovisioning in progress*

The deprovisioning process continues. You can check the status of the process by using the refresh option. After the deprovisioning process completes, the window that is shown in Figure 6-18 opens.

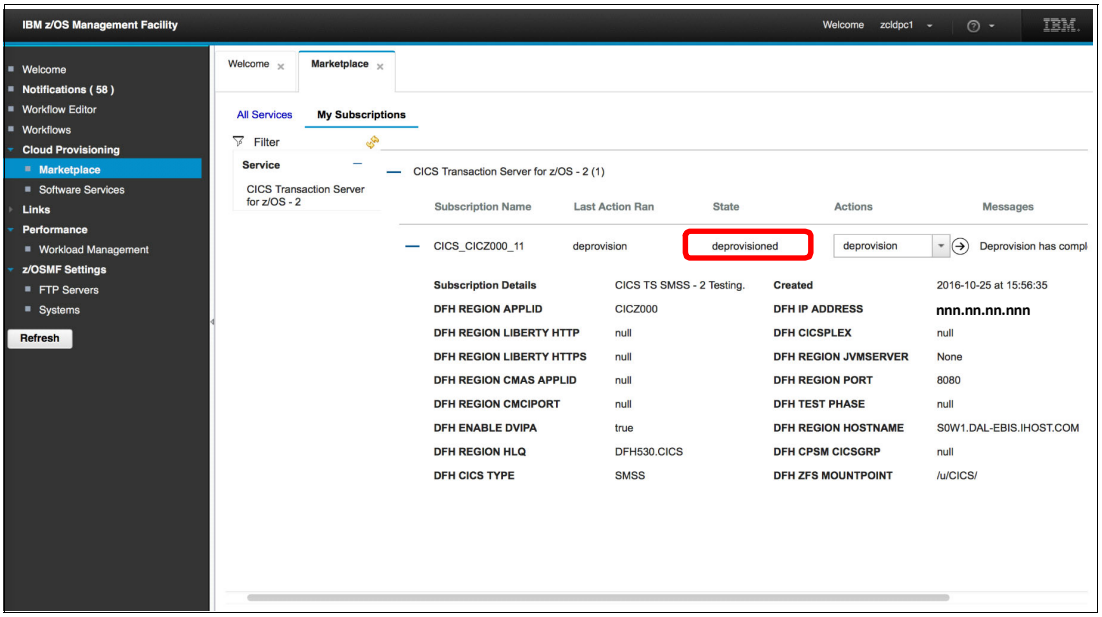


*Figure 6-18 Deprovisioned status*

The subscription is now deprovisioned.

Because we are finished with the subscription, the subscription can be removed. Click the **Actions** drop-down menu and select the **Remove** option, as shown in Figure 6-19.

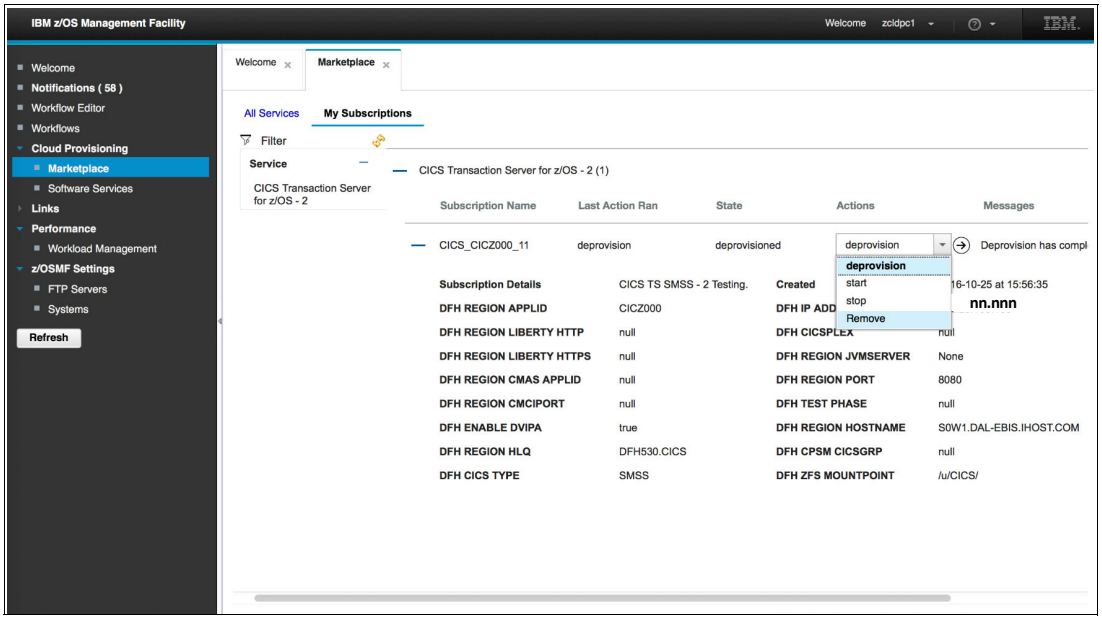


*Figure 6-19 Selecting the Remove option*

A confirmation message is displayed, as shown in Figure 6-20. Click **OK**.

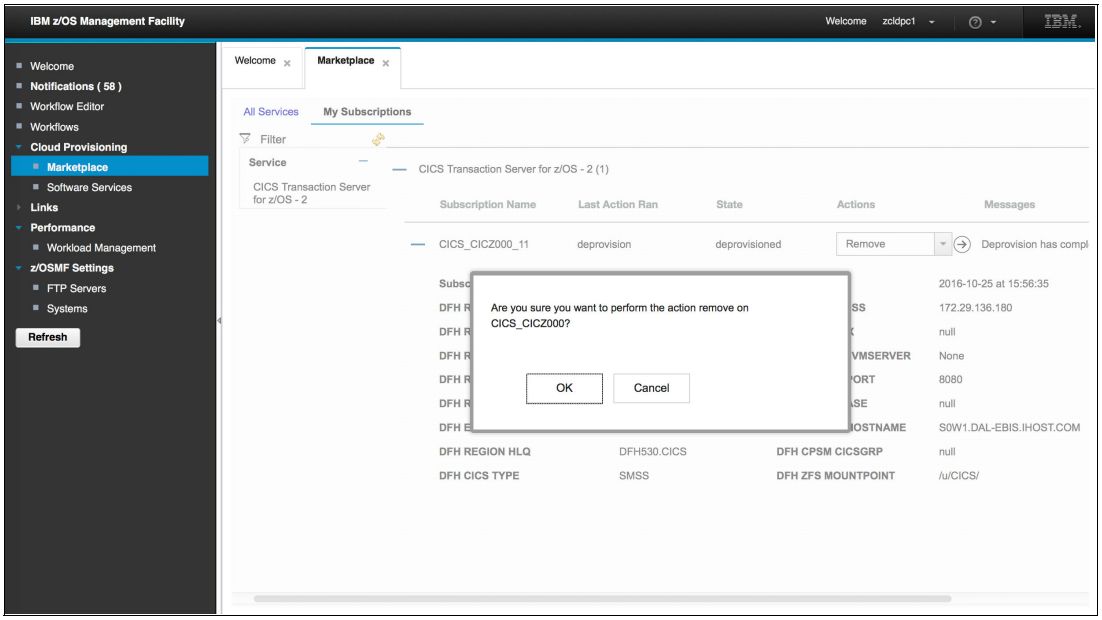


*Figure 6-20 Removing confirmation message*

The window that is shown in Figure 6-21 opens. Our subscription is now removed.

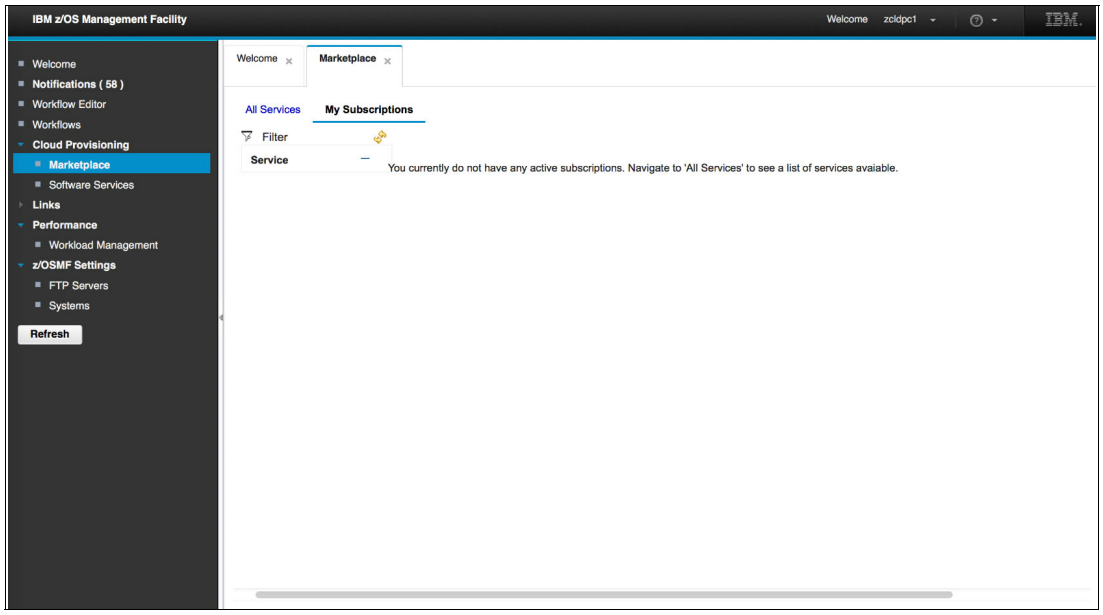


*Figure 6-21 Subscription removed confirmation*

## 6.4 Summary

In this IBM Redpaper publication, we showed you how to modify a template and make it available for consumers to use. We also described the features of the workflow editor, resource management, approval process, publishing, and usage.

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