FUJITSU Software
Cloud Services Management V1.0.0

Instruction Guide
for the Service Recovery Tool
for Restoration of the Admin Server

Windows(64)

fscsm-v0100-servicerecover-en
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Preface

Purpose of This Document
This manual explains the necessary information and advisory notes regarding the tool for recovering service information when performing backup or restoration using FUJITSU Software Cloud Services Management V1.0.0 (hereinafter Cloud Services Management).

Intended Readers
This manual is written for people who operate Cloud Services Management V1.0.0, cloud services, and cloud management software as Operators of Cloud Services Management V1.0.0.

Basic knowledge regarding Cloud Services Management V1.0.0, cloud services, and cloud management software is necessary when using this manual.

Structure of This Document
The structure of this manual is as follows.

Chapter 1 Service Information Recovery
Explains the service recovery tool.

Chapter 2 Installation and Uninstallation
Explains the installation and uninstallation methods.

Chapter 3 Command Reference
Explains how to use the tool.

Chapter 4 Messages
Explains the meanings of messages and the corrective action to be taken.

Notational Conventions
For details of the abbreviations used in this document, refer to the following table.

<table>
<thead>
<tr>
<th>Proper Name</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUJITSU Software Cloud Services Management</td>
<td>Cloud Services Management</td>
</tr>
<tr>
<td>FUJITSU Software ServerView Resource Orchestrator</td>
<td>ROR</td>
</tr>
<tr>
<td>FUJITSU Cloud A5 for Microsoft Azure</td>
<td>Azure</td>
</tr>
<tr>
<td>Amazon Web Services</td>
<td>AWS</td>
</tr>
</tbody>
</table>

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Chapter 1 Service Information Recovery

This chapter explains the recovery procedure for the service information necessary after restore of the admin server, for systems using this product.

1.1 Procedure

This section explains when the procedure described in this document should be performed.

Assume that the resource configurations are as shown below.

- Platform x 1
  Platform ID: platform01
- Service (VM) x 3
  Service IDs: serviceA1, serviceB1, serviceC1

1. Perform backup of the admin server in case an error occurs on the admin server.
   For details, refer to "4.2.1.1 Backup" in the "Cloud Services Management Operation Guide".

2. Perform the following operations for the platform platform01, after backing up the admin server.
   a. Register serviceA2 as a service of the virtual machine
   b. Delete serviceB1 which existed before the backup
   c. Modify the instance type which existed before the backup

3. After operation 2 completes, if this product does not work correctly due to disk failure on the admin server, restore the backup data collected in 1.
   For details, refer to "4.2.1.2 Restore" in the "Cloud Services Management Operation Guide".

Performing restore enables recovery of the information of serviceB1, and the information of instance type serviceC1 which existed before modification to the database of this product. However, the information of serviceA2 will not be recovered. In the cloud service or cloud management product, serviceA1, serviceA2, and serviceC1, for which the instance type has been modified, exist, and serviceB1 is in the deleted state. Differences are generated on the cloud service or cloud management product end. This it prevent problems even if the databases of this product have been damaged. When there is inconsistency between the cloud service or cloud management product and the database information of this product, recovery operations of the service information as described in this document are necessary.

Range of Support

If the following operations are performed after collection of admin server backup, restore the admin server, and then perform recovery of service information.

- Performs registration, modification, and deletion of services
- Performs registration and deletion of snapshots

Prerequisites

When performing this procedure, it is necessary to satisfy the following conditions:

- The version of this product must be V1.0.0.
- The cloud service or cloud management product being used must be ROR, Azure, or AWS
- Recovery operations of service information must be performed by operators

Point

This tool controls service information without requiring the approval processes of this product.
Note

- Using this tool, the service charge data lost by rolling back during restoration cannot be recovered.
- Usage charges are handled with the assumption that they are registered, modified, or deleted when this tool is executed.
- The charge for snapshots of virtual machines are calculated based on the disk size being used. When a snapshot is registered using this tool, the charge is calculated using the following formula and specified parameters.

<system disk size> + <data disk size> * <the number of data disks>

Procedure

An overview of recovery procedures and reasons which increase recovery workloads are as shown below.

<table>
<thead>
<tr>
<th>No</th>
<th>Procedure</th>
<th>Reasons Which Increase Recovery Workloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Restrictions on User Access</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Checking Service Information Differences with the Cloud Service or Cloud Management Product</td>
<td>Number of services</td>
</tr>
<tr>
<td>3</td>
<td>Collecting Service Information</td>
<td>Number of services to recover</td>
</tr>
<tr>
<td>4</td>
<td>Recovery of Platform Information</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Creating XML Files for Service Information Recovery</td>
<td>Number of services to recover</td>
</tr>
<tr>
<td>6</td>
<td>Installing Recovery Tools</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Executing Recovery Tools</td>
<td>Number of services to recover</td>
</tr>
<tr>
<td>8</td>
<td>Canceling User Access Restrictions</td>
<td></td>
</tr>
</tbody>
</table>

1.2 Restoring the Admin Server and Performing Service Recovery

This section explains how to perform recovery of service information after restoring the admin server, in cases when the following operations are performed after the collection of an admin server backup.

- Performs registration, modification, and deletion of services
- Performs registration and deletion of snapshots

1.2.1 Restrictions on User Access

During recovery of service information, use one of the following methods to restrict access from users to prevent operations by platform providers which would affect the service.

- Depending on the environment, use the appropriate method to restrict access to the console of this product.
- Stop only some of the services of this product
- Execute the following stop command:

```cmd
net stop "FUJITSU Software Cloud Services Management Web Server(GUI)"
```

1.2.2 Checking Service Information Differences with the Cloud Service or Cloud Management Product

After restoring this product, output service information using the fscsm_service command. Check the information of the cloud service or cloud management product, and extract the differences of the service information.
For details on the fscsm_service command, refer to "5.2.6 Service Operation Commands" in the "Cloud Services Management Operation Guide".

1.2.2.1 For AWS

Log in to the AWS console and check the EC2 instances and snapshot information on the EBS volume.

**Identifying an Instance Using the Service Information of This Product**

In this product, when service information is output, the following values for an EC2 instance are output in the instanceManagementId element.

- **Instance ID**: Instance ID of the virtual machines registered on AWS
- **Region name**: Use the region name specified for param_region in the vendor definition file referred to in the contract.

The format is as shown below.

```xml
<Instance ID>,<Region name>
```

**Example:**

Instance ID: i-5yghjukd
Region name: ap-northeast-1

In this case, the following values are output in XML:
i-5yghjukd,ap-northeast-1

**Point**

The service ID of this product is configured as a Name element of the EC2 instance.

---

**Identifying Snapshots Using the Service Information of This Product**

In this product, when service information is output, the following values for an EC2 instance are output in the snapshotManagementId element.

- **Region name**: Use the region name specified for param_region in the vendor definition file referred to in the contract.
- **Snapshot ID**: Configure the snapshot ID of the snapshots collected on AWS.
- **Device name**: Use the device name of the virtual machine of the disk from which the snapshot was collected.

The format is as shown below.

```xml
<Region name>,<Snapshot ID>,<Device name>,[<Snapshot ID>,<Device name> ...]
```

**Example:**

Region name: ap-northeast-1
Snapshot ID: snap-djkkdjff
Device name: /dev/xvda
Snapshot ID: snap-67yhjifd
Device name: /dev/sdf

In this case, the following values are output in XML:
ap-northeast-1,snap-djkkdjff,/dev/xvda,snap-67yhjifd,/dev/sdf

**Point**

Specify as many combinations of <Snapshot ID> and <Device name> as the number of target disks. The instance ID for the corresponding instance on AWS is set in the description of the snapshot on the AWS console.
1.2.2.2 For Azure

Log in to the Azure management portal and check the cloud services and virtual machine name information on Azure.

In this product, when service information is output, the following values for a virtual machine on Azure are output in the instanceManagementId element.

- **Cloud service name:** The name of the virtual machines registered to Azure.
- **Virtual machine name:** The name of the virtual machines registered to Azure.
- **Subscription ID:** Azure subscription ID. The cloud service name specified for the param_subscription_id parameter in the vendor definition file referred to in the contract is used.

The format is as shown below.

```
<Cloud service name>, <Virtual machine name>,<Subscription ID>
```

Example:

Cloud service name: vm01
Virtual machine name: vm01
Subscription ID: 4567fgh5-7ujk-78uk-bgt5-nbvjkityuigj

In this case, the following values are output in XML:

```
vm01,vm01,4567fgh5-7ujk-78uk-bgt5-nbvjkityuigj
```

1.2.2.3 For ROR

Log in to the ROR console and check the L-Server name on ROR.

In this product, when service information is output, the following values for a virtual machine on Azure are output in the instanceManagementId element.

- **L-Server name:** The name of the L-Server registered on ROR.

The format is as shown below.

```
<L-Server name>
```

Example:

L-Server name: lserver01

In this case, the following values are output in XML:

```
lserver01
```

1.2.3 Collecting Service Information

Collect the information necessary when there appears to be virtual machine information which resides only in the cloud service or cloud management product using the process in "1.2.2 Checking Service Information Differences with the Cloud Service or Cloud Management Product", or when collecting SLB and RDB information necessary for recovery by the platform provider.

1.2.3.1 When Performing Recovery of Virtual Machine Services

It is necessary to provide the information needed to restore the cloud service and cloud management software to the platform providers who have been notified of deployment completion of a virtual machine, and to obtain the information which operators do not possess.

Explain the cases in which collection of service information related to the virtual machine is required for platform providers.

Assume that the resource configuration and difference information after restore is as shown below.

- Number of platforms: 10
- Number of platform provider approvers and representatives: 10 per platform
- After restoring this product, a single instance exists only for cloud service (AWS)
a. Operators determine the instance IDs and snapshots for AWS which correspond to differences in service information.

b. Notify the instance ID described in a. to 100 approvers and representatives to which deployment and allocation completion emails are sent. Identify the approver or a representative of the platform provider using the services which must be recovered, by having the contents of the email checked and the results returned.

c. Send detailed information of snapshots to the specified approver or a representative of the platform provider, and confirm the information related to virtual machines and the services necessary for recovery.

d. Put together the XML information for service information recovery based on the results provided in c.

The information necessary for the recovery of service information, and operations to be performed in each department for collecting the information are as shown below.

<table>
<thead>
<tr>
<th>No</th>
<th>Required Information</th>
<th>Tasks to Request From Platform Providers</th>
<th>Tasks for Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Service ID</td>
<td>Submission of the email notification received from this product when deployment completes.</td>
<td>Collect the information in the left column, and identify the service ID. The service ID can be specified using the information of the virtual machine described in &quot;1.2.2 Checking Service Information Differences with the Cloud Service or Cloud Management Product&quot;.</td>
</tr>
<tr>
<td>2</td>
<td>Service name</td>
<td>Submission of a desired service name to configure for the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>3</td>
<td>Platform ID</td>
<td>Submission of the ID of the platform to register as the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>4</td>
<td>ID of the managed virtual machine</td>
<td>Submission of the email notification received from this product when deployment completes.</td>
<td>Collect the information in the left column, and identify the ID comparing with the information in &quot;1.2.2 Checking Service Information Differences with the Cloud Service or Cloud Management Product&quot;.</td>
</tr>
<tr>
<td>5</td>
<td>Virtual machine status</td>
<td>Submission of whether the virtual machine in use is on or off.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>6</td>
<td>Instance type information</td>
<td>Submission of the CPU and memory information of the virtual machine being used.</td>
<td>Collect the information in the left column, identify the ServiceOption configured for the task linking with a service, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>7</td>
<td>System disk image information</td>
<td>Submission of the OS type of the virtual machine being used.</td>
<td>Collect the information in the left column, identify the ServiceOption configured for the task linking with a service, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>8</td>
<td>Number of additional data disks</td>
<td>Submission of the number of data disks used by the virtual machine being used.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>9</td>
<td>Disk type information of additional disks</td>
<td>Submission of the data disk size used by the virtual machine being used.</td>
<td>Collect the information in the left column, identify the ServiceOption configured for the task linking with a service, and reflect it on the XML for the recovery tool.</td>
</tr>
</tbody>
</table>
10 | Snapshot ID information  
The information for 11 and 12, is also required for each snapshot already collected using this product. | Determine the snapshot management information using the provided and confirmed AWS instance ID, and reflect it on the XML for the recovery tool. For details on AWS instance IDs and snapshot management information, refer to “1.2.2 Checking Service Information Differences with the Cloud Service or Cloud Management Product”. |

11 | Display name of the snapshot described in 10 | Submission of a desired character string to be configured as the display name of the snapshot. | After determining the snapshot ID information, provide the instance information of the collection destination, which can be checked using the AWS console, and the snapshot collection time to platform providers, collect the information in the left column, and then reflect it on the XML for the recovery tool. |

12 | Comments on the snapshot described in 10 | Submission of a desired character string to be configured as a comment on the snapshot. |

1.2.3.2 When Performing Recovery of RDB Services  
The information necessary for recovery must be provided by platform providers. Provide the information related to the RDB about which notifications have already been sent in systems outside of this product to platform providers again, and collect the information.

<table>
<thead>
<tr>
<th>No</th>
<th>Required Information</th>
<th>Tasks to Request From Platform Providers</th>
<th>Tasks for Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Service ID</td>
<td>Submission of a desired service ID to be configured for the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>2</td>
<td>Service name</td>
<td>Submission of a desired service name to configure for the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>3</td>
<td>Platform ID</td>
<td>Submission of the ID of the platform to register as the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
</tbody>
</table>

1.2.3.3 When Performing Recovery of SLB Services  
The information necessary for recovery must be provided by platform providers. Provide the information related to the SLB about which notifications have already been sent in systems outside of this product to platform providers again, and collect the information.

<table>
<thead>
<tr>
<th>No</th>
<th>Required Information</th>
<th>Tasks to Request From Platform Providers</th>
<th>Tasks for Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Service ID</td>
<td>Submission of a desired service ID to be configured for the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>2</td>
<td>Service name</td>
<td>Submission of a desired service name to configure for the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
<tr>
<td>3</td>
<td>Platform ID</td>
<td>Submission of the ID of the platform to register as the recovery target service.</td>
<td>Collect the information in the left column, and reflect it on the XML for the recovery tool.</td>
</tr>
</tbody>
</table>
1.2.4 Recovery of Platform Information

Compare the platform ID collected as service information and the platform information of this product after restore. When recovery of a platform which does not exist in this product after restore is necessary, confirm the following information necessary for platform providers, and recover it using the platform operation commands.

- Platform ID
- Platform code
- Platform name
- Menu ID of the menus referenced by the platform
- Operation option ID
- User ID of the platform administrator
- Organization ID of the organization to which a platform is registered
- Description of the platform
- Name of the keypair file (for AWS)
- Registration date of the platform

For details on platform operation commands or the XML file format, refer to "5.2.5 Platform Operation Commands" in the "Cloud Services Management Operation Guide".

1.2.5 Creating XML Files for Service Information Recovery

Create an XML file to be specified for this tool for each set of service information required for recovery.

- A service which must be newly created
  - Create a new XML file
- A service which must be modified
  - Edit the exported service information

For details on the XML file format, refer to "3.2 XML Files".

**Point**

- When using this tool, it is possible to recover only a single set of service information with a single execution. The aim is to prevent extra charges caused by errors in XML files, or unintended operations after importing the software. Therefore, it is necessary to create a XML file for each recovery target service information.
- For the process for modifying an existing service using the fscsm_servicerecover modify command, only a single set of service information can be modified.
  - Example: When registering snapshot information, it is necessary that the virtual machine be stopped in advance. As operations such as stopping and registering snapshot information cannot be performed at the same time, it is necessary to create individual XML files to be configured, which specify these operations as their argument.

1.2.6 Installing Recovery Tools

Install recovery tools. For details on the procedure, refer to "Chapter 2 Installation and Uninstallation".

1.2.7 Executing Recovery Tools

Execute this tool for each recovery target service. For details on the command, refer to "3.1 fscsm_servicerecover Command".
Note

Even if the XML specified for the recovery tool is a combination of virtual machines or options which do not actually exist, if the XML format is correct, registration and modification of service information using this tool are possible. If the information of a virtual machine which does not actually exist is specified for registration or modification, operations of the virtual machine using this product fail.

Even if there are the differences between the cloud service or cloud management product and the specified XML information, after execution of this tool completes successfully, the charges are billed based on the registered and modified service information.

1.2.7.1 For AWS

- When instances and snapshots exist as services on this product only
  - Deleting services using this tool recovers the difference information.
  - When deleting the service information of the service ID "serviceA1"
    \[\text{>fscm_servicerecover delete -serviceId serviceA1 <RETURN>}\]

- When instances and snapshots exist on the AWS console only
  - Registering the services using this tool recovers the difference information.
  - When registering service information including instance and snapshot information
    \[\text{>fscm_servicerecover create -file addservice.xml<RETURN>}\]

- When differences in configurations or snapshots are confirmed between this product and the AWS console
  - Modifying services, or registering and deleting snapshots using this tool recovers the difference information.
  - When modifying instance information or service information including the changes in the number of snapshots
    \[\text{>fscm_servicerecover modify -file addsnapshot.xml<RETURN>}\]

1.2.7.2 For Azure

- When virtual machines exist as services on this product only
  - Delete the services using this tool.
  - When deleting the service information of the service ID "serviceA1"
    \[\text{>fscm_servicerecover delete -serviceId serviceA1 <RETURN>}\]

- When virtual machines exist on the Azure management portal only
  - Registering the services using this tool recovers the difference information.
  - When registering service information including the instance information
    \[\text{>fscm_servicerecover create -file addservice.xml<RETURN>}\]

- When differences in configuration are confirmed between this product and the Azure management portal
  - Modifying services using this tool recovers the difference information.
  - When modifying service information including the instance information
    \[\text{>fscm_servicerecover modify -file addsnapshot.xml<RETURN>}\]

1.2.7.3 For ROR

- When L-Servers exist as services on this product only
  - Delete the services using this tool.
- When deleting the service information of the service ID "serviceA1"

> fscsm_servicerecover delete -serviceId serviceA1 <RETURN>

- When L-Servers exist on the ROR console only
  - Registering the services using this tool recovers the difference information.
  - When registering service information including the instance information

> fscsm_servicerecover create -file addservice.xml<RETURN>

1.2.8 Canceling User Access Restrictions

In order to perform operations related services of platform providers again, after completing recovery operations of service information, use one of following operations from "1.2.1 Restrictions on User Access", and release the restrictions on user access.

- Depending on the environment, access the shutdown console of this product again.
- Start only some of the services of this product
- Execute the following start command:

  net start "FUJITSU Software Cloud Services Management Web Server(GUI)"
Chapter 2 Installation and Uninstallation

2.1 Installation

2.1.1 Procedure

Extract the zip file which contains this tool. The csm_service_recover_tool folder is generated. Copy the contents of the csm_service_recover_tool folder into the following folder:

```bash
%FSCSM_HOME%\sys\bin
```

**Point**

FSCSM_HOME is the environment variable to specify the absolute path of the installation directory of this product.
Example: C:\Fujitsu\FSCSM

2.1.2 File Structure

The tool is comprised of the following files when installed:

```
%FSCSM_HOME%\sys\bin\csm_service_recover_tool
|-- fscsm_servicerecover.bat          ---------- Batch file for startup
|-- lib\csm-cli-service-recover.jar   ---------- Main program of the tool
|-- conf\csm_cli_service_recover.xml  ---------- Definition file
|-- conf\cli\win\usage\fscsm_servicerecover_usage.txt --- Text file for usage
```

2.2 Uninstallation

2.2.1 Procedure

Delete the following folder and all files within it:

```bash
%FSCSM_HOME%\sys\bin\csm_service_recover_tool
```
Chapter 3 Command Reference

This section explains how to use individual commands. In this document, the following conventions are used for describing commands:

- **Italics**: the value is a variable
- **[]**: the value can be omitted
- **|**: enter either one of the values
- **>**: the cursor in the command prompt
- **<RETURN>**: press the Return key

For the messages displayed during command execution, refer to “Chapter 4 Messages”.

### 3.1 fscsm_servicerecover Command

Service information managed by Cloud Services Management V1.0.0 can be checked by outputting it to a file in XML format using the `fscsm_service` command. For details, refer to “5.2.6 Service Operation Commands” in the “Cloud Services Management Operation Guide”.

To check the information for cloud services or cloud management products, use the respective management consoles.

**Command Name**

`fscsm_servicerecover`

**Format**

```plaintext
fscsm_servicerecover create -file input-file
fscsm_servicerecover modify -file input-file
fscsm_servicerecover delete -serviceId serviceID
```

**Description**

Performs registration, modification, and deletion of service information.

**Subcommands**

`create -file input-file`

Registers service information. This command can register one service information file at a time.

For `input-file`, specify the name of the file containing service information to be registered. For the file format, refer to "3.2 XML Files".

`modify -file input-file`

Modifies the service information. This command can modify one service information file at a time.

For `input-file`, specify the name of the file containing service information to be modified. For the file format, refer to "3.2 XML Files".

`delete -serviceId serviceID`

Deletes one service information ID.

For `serviceID`, specify the service ID corresponding to the information to be deleted.

**Privileges Required for Command Execution**

The above command must be executed by an account with administrator privileges (Administrator) within the operating system. The above command does not depend on the privileges of the organization or user of Cloud Services Management. It can be executed without approval.

**Command Location**

The above command must be executed on the admin server where Cloud Services Management is operating. The above command is stored in the following directory. Move to this directory to execute the command.
Examples

- When registering service information

> fscsm_servicerecover create -file addservice.xml<RETURN>

- When modifying service information

> fscsm_servicerecover modify -file upservice.xml<RETURN>

- When deleting the service information of the service ID "vm-01"

> fscsm_servicerecover delete -serviceId vm-01<RETURN>

3.2 XML Files

There are two types of service recovery commands that use XML files:

- Service Information Registration
- Service Information Modification

The following section explains the format for XML files.

XML elements must be specified using the following hierarchical structure.

When the service is a virtual machine

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<services>
  <service>
    <serviceId>Service ID</serviceId>
    <serviceName>Service name</serviceName>
    <bizSystemRId>Resource ID of platform information</bizSystemRId>
    <serviceType>VM</serviceType>
    <instances>
      <instance>
        <instanceManagementId>ID of the managed virtual machine</instanceManagementId>
        <instanceTypeId>Instance type</instanceTypeId>
        <status>Virtual machine status</status>
        <systemdiskImage>System disk image</systemdiskImage>
        <datadiskNum>Number of additional data disks</datadiskNum>
        <datadiskType>Disk type of additional disks</datadiskType>
        <snapshots>
          <snapshot>
            <snapshotManagementId>Snapshot ID information</snapshotManagementId>
            <snapshotName>Display name of the snapshot</snapshotName>
            <comment>Comment for the snapshot</comment>
            <snapshotDate>Date and time when the snapshot was collected</snapshotDate>
          </snapshot>
        </snapshots>
      </instance>
    </instances>
  </service>
</services>
```

When the service is RDB or SLB

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<services>
  <service>
    <serviceId>Service ID</serviceId>
  </service>
</services>
```
Explanation of XML Elements

- For `<instances>` and `<instance>`, only one element can be specified for `<service>`.
- Multiple `<snapshot>` elements can be specified for `<instance>`.
- When the `<snapshots>` element is omitted, no snapshot information is registered during registration. During modification, existing snapshots are deleted.
- When `<snapshots/>` or `<snapshots></snapshots>` is specified, no snapshot information is registered during registration. During modification, the existing snapshot information is deleted.

The following table explains the details of each element.

<table>
<thead>
<tr>
<th>Element description</th>
<th>Required</th>
<th>Registration</th>
<th>Modification</th>
<th>Explanation regarding the value to specify and format used during registration and modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service ID (serviceId)</td>
<td>Yes</td>
<td>Yes</td>
<td>*1</td>
<td>Specify a character string beginning with an alphabetic character (lower case) and containing between 3 and 15 alphanumeric characters (lower case). Duplicate IDs are not allowed. Modification is not possible.</td>
</tr>
<tr>
<td>Service name (serviceName)</td>
<td>Yes</td>
<td>Yes</td>
<td>*6</td>
<td>Specify a character string containing between 1 and 64 characters.</td>
</tr>
<tr>
<td>Resource ID of platform information (bizSystemRId)</td>
<td>Yes</td>
<td>Yes</td>
<td>*1</td>
<td>Specify the resource ID of registered platform information. Specify the resource ID of the existing platform information using an up to eight-digit integer. To obtain the resource ID of the existing platform information, execute the platform information output command.</td>
</tr>
<tr>
<td>Service type (serviceType)</td>
<td>Yes</td>
<td>Yes</td>
<td>*1, *5</td>
<td>Specify one of the following values:</td>
</tr>
<tr>
<td>Value</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VM</td>
<td>Virtual machine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLB</td>
<td>SLB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RDB</td>
<td>RDB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID of the managed virtual machine (instanceManagementId)</td>
<td>Yes</td>
<td>Yes</td>
<td>*1</td>
<td>Specify the information of the cloud service or cloud management product. For details, refer to &quot;1.2.2 Checking Service Information Differences with the Cloud Service or Cloud Management Product&quot;. Specify a character string that begins with something other than a comma (&quot;,&quot;) and contains between 1 and 1024 alphanumeric characters and symbols (&quot;&quot;, &quot;,&quot;, &quot;,&quot;, &quot;,&quot;, and &quot;,&quot;) .</td>
</tr>
<tr>
<td>Instance type (instanceTypeId)</td>
<td>Yes</td>
<td>Yes</td>
<td>*2, *6</td>
<td>Specify the optionId of the serviceOption with optionType=vm configured in the menu linked to the platform.</td>
</tr>
<tr>
<td>Virtual machine status (status)</td>
<td>Yes</td>
<td>Yes</td>
<td>*6</td>
<td>Specify one of the following values:</td>
</tr>
<tr>
<td>Value</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>running</td>
<td>running</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stopped</td>
<td>stopped</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System disk image (systemdiskImage)</td>
<td>Yes</td>
<td>Yes</td>
<td>*1</td>
<td>Specify the optionId of the serviceOption with optionType=image configured in the menu linked to the platform.</td>
</tr>
<tr>
<td>Entry</td>
<td>Yes</td>
<td>Yes</td>
<td>Specify an integer between 0 and 99999999.</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----</td>
<td>-----</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>The number of additional data disks</td>
<td>Yes</td>
<td>Yes</td>
<td>*2, *6</td>
<td></td>
</tr>
<tr>
<td>(datadiskNum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specify an integer between 0 and 99999999.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disk type of additional disks</td>
<td>No</td>
<td>No</td>
<td>Specify the optionId of the serviceOption with optionType=disk configured in the menu linked to the platform.</td>
<td></td>
</tr>
<tr>
<td>(datadiskType)</td>
<td></td>
<td></td>
<td>Specification is required when the value for datadiskNum is 1 or larger.</td>
<td></td>
</tr>
<tr>
<td>Snapshot ID information</td>
<td>No</td>
<td>No</td>
<td>This information must reflect the information of the cloud service or cloud management product. For details, refer to &quot;1.2.2.1 For AWS&quot;.</td>
<td></td>
</tr>
<tr>
<td>(snapshotManagementId)</td>
<td></td>
<td></td>
<td>Specify a character string that begins with something other than a comma (&quot;,&quot;) but that contains one or more commas (&quot;,&quot;), and between 1 and 1024 alphanumeric characters and symbols (&quot;,&quot;, &quot;&quot;, &quot;,&quot;, &quot;,&quot;, &quot;,&quot;, &quot;,&quot;, &quot;,&quot;, &quot;,&quot;, &quot;,&quot;, &quot;,&quot;, and &quot;,&quot;).</td>
<td></td>
</tr>
<tr>
<td>Display name of the snapshot</td>
<td>No</td>
<td>No</td>
<td>Omission is not possible for the snapshot element. Duplication is not allowed between services. When registering a snapshot during the modification process, the state of the virtual machine must be &quot;stopped&quot; before registration.</td>
<td></td>
</tr>
<tr>
<td>(snapshotName)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specify a character string containing 1 and 64 characters. Omission is not possible for the snapshot element. Modification is not possible on snapshotManagementIds that already exist.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A comment for the snapshot</td>
<td>No</td>
<td>No</td>
<td>Specify a character string containing 0 and 256 characters. Omission is not possible for the snapshot element. Modification is not possible on snapshotManagementIds that already exist.</td>
<td></td>
</tr>
<tr>
<td>(comment)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date and time when a snapshot was</td>
<td>No</td>
<td>No</td>
<td>Modification is not possible on snapshotManagementIds that already exist. Omission is possible for the snapshot element. Even if specified, the time when this tool was executed is used.</td>
<td></td>
</tr>
<tr>
<td>registered</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(snapshotDate)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The meaning of each entry in the "Required" column is as follows:
Yes: The value must be specified.
No: Can be omitted.
-: Specification is not possible.
*1: Modification is not possible.
*2: When using ROR as the cloud service or cloud management product, modification is not possible.
*3: In the menu where the specified platform is linked, if the optionType of the serviceOption is specified as snapshot, registration and deletion of the snapshot is possible. When registering or deleting snapshot information, enter XML information that includes the information of the snapshot that is already registered.
Example 1: When registering two snapshots to the environment where one snapshot already exists, specify a total of three definitions for `<snapshot></snapshot>`.
Example 2: When deleting one snapshots from an environment where two snapshots exist, specify the definition for `<snapshot></snapshot>` which you want to retain.
When registering the snapshot information using the modify subcommand, it is required that the state of the virtual machine must be "stopped".
*4: Modification is possible only when the number of data disks is 0 (zero) in the management information of Cloud Services Management.
*5: In the menu where specified platform is linked, if the optionType of the serviceOption is specified as slb, SLB can be specified. In the menu where specified platform is linked, if the optionID of the serviceOption is specified as rdb, RDB can be specified.

*6: Only one item can be modified.
Chapter 4 Messages

4.1 Messages Beginning with FSCSM

When the process is successfully completed or ends abnormally, a message beginning with FSCSM is displayed. For details, refer to “2.3 Messages Beginning with FSCSM” in "Cloud Services Management Messages".

fscsm3006 messages output by this tool are as shown below.

**ERROR: fscsm3006: Data inconsistent.**

**Message Meaning**

The process was stopped, because the values in the file are wrong.

**System Processing**

The command is aborted.

**Cause**

- Parameters or values in the used file are wrong.
  - Service recovery tool operation command
    - There are problems with the character types, character length, and patterns specified in the XML.
    - There are no Id/RId references specified in the XML.
    - The parameters which must not be omitted have been omitted in the XML.
    - The parameters which must not be modified have been modified in the XML.
    - There are multiple of the same Id resource in the XML.
    - For the registration command, an already registered Id has been specified in the XML.
    - For the modification command, multiple resources have been modified.
    - For the registration command, multiple resources have been specified.
    - For the registration command, a management target virtual ID which is already registered in this product has been specified.
    - For the registration and modification commands, a virtual machine has been specified for the service type, but XML with no <instances> and <instance> elements has been specified.
    - For the registration and modification commands, a virtual machine has been specified for the service type, but multiple sets of information using <instance> elements have been specified.
    - For the registration and modification commands, SLB or RDB has been specified for the service type, but information using <instance> elements has been specified.
    - For the registration and modification commands, a platform not linked to the configuration options which must be used is specified.
    - For the registration and modification commands, a platform in which the linked menu does not support SLB operations has been specified.
    - For the registration and modification commands, a platform in which the linked menu does not support RDB operations has been specified.
    - For the registration and modification commands, a platform in which the linked menu does not support virtual machine operations has been specified.
    - For the registration and modification commands, a platform in which the linked menu does not support snapshots has been specified.
    - For the registration and modification commands, the optionId of an inappropriate configuration option has been specified.
- For the modification command, overlapping snapshot ID information has been specified for multiple sets of snapshot information

- For the modification command, multiple sets of information which cannot be modified at the same time with a single operation are specified

**Corrective Action**

Check and correct the parameters or the values in the used file described in "3.2 XML Files", and then perform the operation again.