

Systemwalker Service Catalog Manager V15.1.0 (Business Support System)

A decorative horizontal band with a dark blue background. It features several glowing blue spheres of varying sizes, some with grid patterns, and thin, curved lines connecting them, creating a network-like or orbital aesthetic.

Supplier's Guide

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About this Manual

This manual describes how service providers can define and manage service offerings for applications with Systemwalker Service Catalog Manager - hereafter referred to as Business Support System or BSS.

This manual is structured as follows:

Chapter	Description
<i>Introduction on page 7</i>	Outlines the role of a supplier in BSS and gives an overview of the supplier's tasks.
<i>Marketable Services on page 10</i>	Describes the basic concepts of marketable services and explains how to define and manage marketable services.
<i>Price Models on page 17</i>	Describes the basic concepts of price models and explains how to define and maintain price models.
<i>Customer Management on page 27</i>	Describes the different tasks involved in customer management.
<i>Billing and Payment on page 30</i>	Describes how BSS supports suppliers in calculating the charges for customers and collecting payments.
<i>Reporting on page 33</i>	Describes the reports available for suppliers in BSS.
<i>Integrating External Process Control on page 34</i>	Describes the tasks involved in connecting BSS with an external process control system.
<i>Menu Options and User Roles on page 36</i>	Gives an overview of the menu options relevant for suppliers.
<i>LDAP Keys on page 38</i>	Lists the keys to be defined for enabling access to a customer's LDAP system.

Readers of this Manual

This manual is directed to people who want to offer services to customers for subscription and use. It assumes that you are familiar with the BSS concepts as explained in the *Overview* manual.

Notational Conventions

This manual uses the following notational conventions:

Add	The names of graphical user interface elements like menu options are shown in boldface.
<code>init</code>	System names, for example, command names, and text that is entered from the keyboard are shown in Courier font.
<code><variable></code>	Variables for which values must be entered are enclosed in angle brackets.
<code>[option]</code>	Optional items, for example, optional command parameters, are enclosed in square brackets.

<code>one two</code>	Alternative entries are separated by a vertical bar.
<code>{one two}</code>	Mandatory entries with alternatives are enclosed in curly brackets.

Abbreviations

This manual uses the following abbreviations:

BSS	Business Support System
IaaS	Infrastructure as a Service
LDAP	Lightweight Directory Access Protocol
PaaS	Platform as a Service
PSP	Payment service provider
SaaS	Software as a Service

Available Documentation

The following documentation on BSS is available:

- *Overview*: A PDF manual introducing BSS. It is written for everybody interested in BSS and does not require any special knowledge.
- *Online Help*: Online help pages describing how to work with the user interface of BSS. The online help is directed and available to everybody working at the user interface.
- *Installation Guide*: A PDF manual describing how to install and uninstall BSS. It is directed to operators who set up and maintain BSS in their environment.
- *Operator's Guide*: A PDF manual for operators describing how to administrate and maintain BSS.
- *Technology Provider's Guide*: A PDF manual for technology providers describing how to prepare applications for usage in a SaaS model and how to integrate them with BSS.
- *Supplier's Guide*: A PDF manual for suppliers describing how to define and manage service offerings for applications that have been integrated with BSS.
- *Marketplace Owner's Guide*: A PDF manual for marketplace owners describing how to administrate and customize marketplaces in BSS.
- *Developer's Guide*: A PDF manual for application developers describing the public Web service interface of BSS and how to use it to integrate applications and external systems with BSS.
- Javadoc documentation for the public Web service interface of BSS and additional resources and utilities for application developers.

1 Introduction

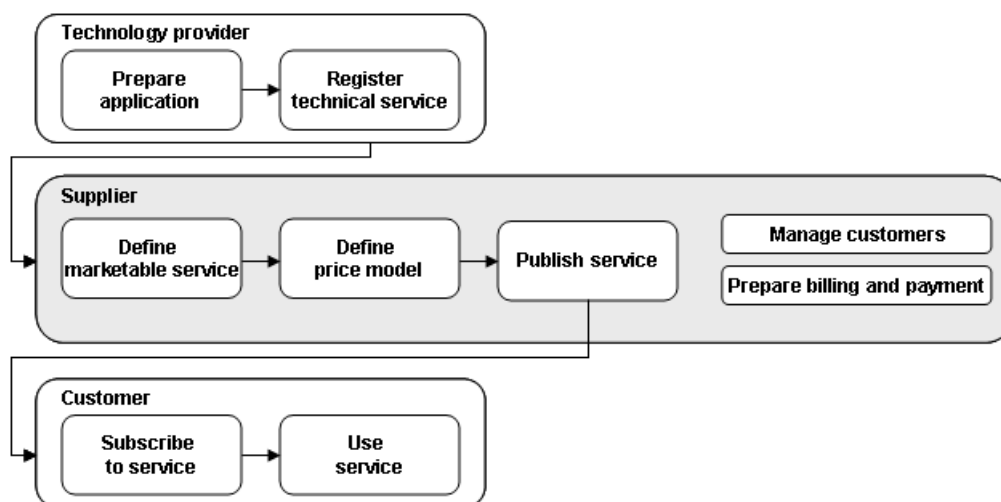
Business Support System (BSS) is a set of services which provide all business-related functions and features required for turning on-premise software applications into Software as a Service (SaaS) offerings and using them in the Cloud. This includes ready-to-use account and subscription management, online service provisioning, billing and payment services, and reporting facilities.

With its components, BSS covers all the business-related aspects of a Platform as a Service (PaaS) or Cloud platform. It supports software vendors as well as their customers in leveraging the advantages of Cloud Computing.

The basic scenario of deploying and using applications as services in the BSS framework involves the following organizations:

- **Technology providers** (e.g. independent software vendors) technically prepare their applications for usage in the Cloud and integrate them with BSS. They register the applications as technical services in BSS.
- **Suppliers** (e.g. independent software vendors or sellers) define service offerings, so-called marketable services, for the technical services in BSS. They publish the services to a marketplace.
- **Customers** register themselves or are registered by a supplier in BSS and subscribe to one or more services. Users appointed by the customers work with the underlying applications under the conditions of the corresponding subscriptions.
- **Marketplace owners** are responsible for administrating and customizing the marketplaces to which suppliers publish their services.
- **Operators** are responsible for installing and maintaining BSS.

1.1 The Supplier's Tasks in BSS



As a supplier, you define marketable services for applications that have been prepared and registered as technical services in BSS by technology providers.

For each technical service, you can create any number of marketable services, applying different price models, configurations, and restrictions. A price model defines how much a customer will be charged for using a service.

Once you have defined a marketable service and its associated price model, you can make the service available to customers by publishing it to a marketplace.

Customers can register themselves with BSS, or you can register them. To use applications in the Cloud, customers subscribe to one or more published services on the basis of the terms and conditions and the price models you have defined. Customers can register or import any number of users who work with the services.

Apart from providing marketable services with their price models, your role as a supplier involves:

- **Managing your customers.** This includes, for example, explicitly terminating a customer's subscription.
- **Preparing billing and payment.** As users work with a service, BSS calculates the usage charges based on the fees defined in the related price model. These billing data can be used for generating invoices. You are responsible for the processing of the billing data and payment collection. BSS enables you to integrate and use the facilities of a commercial payment service provider (PSP) for this purpose.

BSS offers comprehensive reports for different purposes and at different levels of detail. Supplier reports focus on retrieving business data that enable you, for example, to recognize specific patterns of customer behavior.

As a supplier, you can also carry out specific actions under the control of an external process control system. For specific actions performed by users or triggered by BSS, BSS provides a way to interact with such an external process control system. To this end, you define so-called triggers to be called when an action is started in BSS

If required, you can also act as a customer in BSS. As a supplier, you are automatically privileged to subscribe to services and work with the services you have subscribed to.

If you also need to perform technology provider or marketplace owner tasks, your organization must be assigned the corresponding roles by the BSS operator.

1.2 Accessing BSS

To perform your tasks, you use the BSS user interface. The role of your organization as a supplier and your user role within the organization determine which features are available to you at the BSS user interface.

BSS distinguishes between the following users roles within supplier organizations:

- **Administrator:** Each organization must have at least one user with this role. An administrator can manage the organization's account and subscriptions as well as its users and their roles. The first administrator of an organization is defined when the organization is created.
- **Service manager:** This role allows a user to define marketable services and price models as well as publish marketable services.

To access the BSS user interface, you use the login information provided by BSS in the email confirming the creation of your user account.

To log in:

1. Click the link provided in the email, or type the access URL in your Web browser's address bar.

The access URL has the following format:

```
http://<server>:<port>/fujitsu-bss-portal
```

<server> is the Web/application server where BSS has been deployed. <port> is the port to address the Web/application server (default: 80 for HTTP, 443 for HTTPS).

2. On the **Login** page, type your user ID and password.

3. Click **Login**, or press **Return**.

You are either logged in directly, or you are prompted to change your initial password when you log in for the first time. It is highly recommended to change the initial password.

If you try to log in with a wrong password, your account is locked after the third attempt. In this case, contact your administrator who can reset your password. You will get a new temporary password for your next login.

If you have forgotten your user ID, contact your administrator who can look up the ID in the list of users registered for your organization.

If your session expires, you have to log in again.

2 Marketable Services

A marketable service is a service offering to customers based on a technical service provided by a technology provider. It defines parameters, conditions, and restrictions for using the underlying application.

You can define marketable services for all the technical services for which you have been granted permissions by the relevant technology providers. For each technical service, any number of marketable services can be defined, applying different price models, configurations, and upgrade and downgrade options.

You could, for example, define three marketable services based on one technical service, thus offering three different editions of an application to your customers. The services could be defined as follows:

	Configuration	Price
Trial edition	Limited subscription for 4 weeks Limited set of features Number of users limited to 1	Free of charge
Standard edition	No limit of subscription lifetime Standard set of features Number of users limited to 25	Basic charge of 45 € per month
Enterprise edition	No limit of subscription lifetime Full set of features Unlimited number of users	Basic charge of 60 € per month 1 € per user login

If defined for the underlying application, specific parameters can take on different values which you can make available to customers as different options. When a customer subscribes to the service, he can choose between the options. This makes service definitions flexible, since there is no need for defining separate services for every option you want to offer.

For example, you could offer a parameter defining the required disk space with three options for the customer to choose from:

- Minimum space of 100 GB
- Medium space of 200 GB
- Maximum space of 400 GB

You can define different prices for the three options. For details, refer to *Price Model Elements* on page 17.

In the following sections, you will find an overview of the individual elements that make up the definition of a marketable service and the functions that support you in defining, maintaining, and publishing marketable services.

2.1 Defining Marketable Services

The general procedure for defining a marketable service in BSS is the following:

1. Create the marketable service. For details, refer to *Creating Marketable Services* on page 11.
2. Define a price model for the service. For details, refer to *Price Models* on page 17.

3. Define upgrade and downgrade options (optional). For details, refer to *Defining Upgrade and Downgrade Options* on page 12.

2.1.1 Creating Marketable Services

Creating a marketable service means specifying its parameters, conditions, and restrictions.

To create a marketable service, use the **Define a service** menu option in the **Marketable service** menu of the BSS user interface.

When you create a marketable service, you first have to select the technical service the marketable service is to be based on. You can then specify the following elements for the marketable service:

- A **service identifier**. This is offered for selection when you update or delete the service, or when you specify upgrade and downgrade options or a price model for it.
The service identifier is mandatory. It must be unique within the marketable services of your organization.
- An **image** representing the service. This may be useful, for example, for customers to identify the service.
The image is shown in the service catalog on the marketplace to which you publish the service.
- A **service name for customers**. The name should be meaningful and should have a high recognition value.
The service name for customers is shown in the service catalog on the marketplace to which you publish the service. If you do not specify a service name for customers, the service identifier is shown instead.
- A **short description** that briefly introduces the service. It may, for example, provide a short overview of the features the service provides.
The short description is shown in the service catalog on the marketplace to which you publish the service.
- A **service description** that provides, for example, details on the features offered by the service.
The underlying technical service comes with a description that is displayed by default for the marketable service. It is up to you whether you use the description as defined by the technical service, or whether you enter a different one.
The service description is shown to customers on a marketplace when they request details on a service.
- The **marketplace** to which your service is to be published. The specification of the marketplace is required for publishing the service.
You can publish the service to a marketplace that is basically open to any supplier, or you can publish it to a marketplace that is not open to any supplier but for which you have been explicitly authorized as a supplier by the marketplace owner organization.
Provided that categories are defined for the marketplace you select, you can assign one or multiple categories to your service. The marketplace owner is responsible for creating the categories you can choose from. Marketplace visitors can use the categories for browsing the service catalog and filtering the services. Categories are also taken into consideration by the full-text search feature on the marketplace.
- A flag specifying whether the service is to be **public**.
A public service is visible in the service catalog for anybody accessing the marketplace. A service that has not been marked as public is available for subscription to registered customers only.

- **Service parameters** related to subscription and usage.

Subscription parameters include, for example, the maximum number of users per subscription or the maximum lifetime of a subscription. It depends on the underlying technical service which subscription parameters are available.

Usage parameters include, for example, the enablement or disablement of specific features of the underlying application, or the maximum number of folders, files, or objects that can be created. The usage parameters are defined and provided by the underlying technical service.

The service name for customers, the short description, and the description can be specified in one or several languages. For details, refer to *Maintaining Marketable Services* on page 14.

2.1.2 Defining Upgrade and Downgrade Options

Upgrade and downgrade options allow customers to migrate between marketable services. They enable you to flexibly meet the changing needs of your customers. A subscription for a marketable service defining a trial edition could be upgraded, for example, to a marketable service defining a standard or enterprise edition. A subscription for a marketable service with an unlimited number of users could be downgraded to a marketable service with a limited number of users.

The following example shows upgrade options for a service on a marketplace:

The screenshot displays a user interface for managing a 'Web Calendar Trial' subscription. At the top, it shows the service name, provider 'TechProvAndSupplier', and a 'Terminate' button. Below this, key details are listed: 'Activation date: Nov 4, 2011', 'Users: 1', and 'Price: Free of charge'. A 'License agreement' link is also present. A navigation bar includes 'Users', 'Configuration', 'Up/Downgrade', and 'Supplier' tabs. The 'Up/Downgrade' tab is active, showing 'Select your edition:' with two options: 'Web Calendar Standard' (priced from EUR 19.99) and 'Web Calendar Enterprise' (priced from EUR 99.00). Both options include a star rating of 'not rated yet' and a 'Select' button.

You can specify any number of upgrade and downgrade options for a marketable service. The options must all be based on the same technical service.

To define the options, use the **Define up/downgrade options** menu option in the **Marketable service** menu of the BSS user interface.

For defining upgrade and downgrade options, the relevant marketable services must be deactivated. As soon as you have published the services again, your customers can subscribe to them and are free to upgrade and downgrade their subscriptions as required.

2.2 Publishing Marketable Services

Publishing a marketable service means making it available to customers for subscription on a marketplace.

When you create a marketable service, you specify the marketplace to which the service is to be published. A marketable service can be published to exactly one marketplace. If you want to publish it to a different marketplace, you have to change the definition. For details, refer to *Creating Marketable Services* on page 11.

As a prerequisite for publishing a marketable service, a price model must have been defined for it. For details, refer to *Price Models* on page 17.

Publishing a marketable service involves the following tasks:

- Activate the marketable service.
- Publish the URL of the marketplace.

Activating a Marketable Service

To make a service available on a marketplace, use the **Activate or deactivate services** menu option in the **Marketable service** menu of the BSS user interface.

Publishing the URL of a Marketplace

To make your service offering known to customers, you have to publish the URL of the marketplace. You can publish the URL, for example, by email or on your website or portal. The URL is provided by BSS. After creating a marketplace, the marketplace owner is sent an email with the URL for accessing the marketplace.

The URL has the following format:

```
http://<server>:<port>/fujitsu-bss-portal/marketplace?mId=<mID>
```

<server> is the Web/application server where BSS has been deployed. <port> is the port to address the Web/application server (default: 80 for HTTP, 443 for HTTPS). <mId> is the ID of the marketplace.

Contact an administrator of the marketplace owner organization if you do not know the ID of the marketplace.

People who use the URL for accessing a marketplace can view all services that are marked as public. When subscribing to a service, they are either redirected to the registration Web page or they can log in to BSS directly, provided they are already registered as a customer.

You can also publish the URL of the registration Web page of BSS. This allows customers to directly register with BSS. Registered customers can see all the services which are not marked as public. A registered customer is sent an email with the login data and an initial password to be used for the first login.

```
http://<server>:<port>/fujitsu-bss-portal/marketplace/registration.jsf?mId=<mID>
```

<server> is the Web/application server where BSS has been deployed. <port> is the port to address the Web/application server (default: 80 for HTTP, 443 for HTTPS). <mId> is the ID of the marketplace.

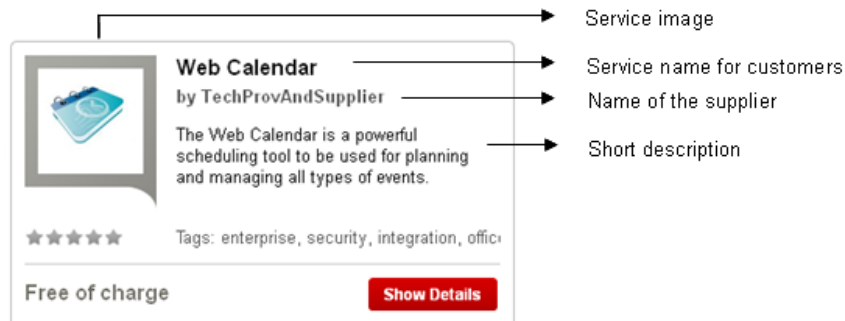
Contact an administrator of the marketplace owner organization if you do not know the ID of the marketplace.

Alternatively, you yourself can register customers with BSS.

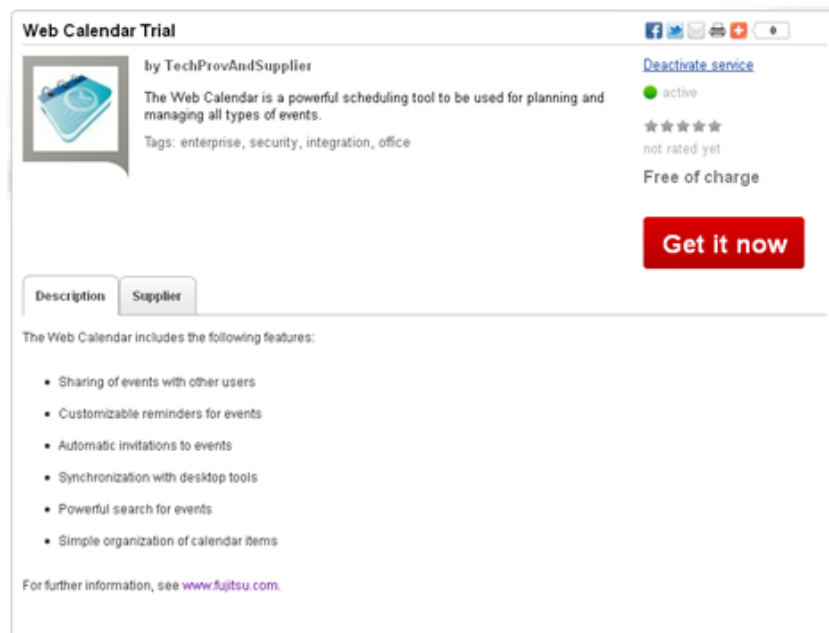
Example

The following example shows how a published service is presented on a marketplace.

In the service catalog on the marketplace, the service image, the service name for customers, the short description, and the name of the supplier are displayed:



From the service catalog, a customer can request details on the service. This allows the customer to view the service description you have provided:



2.3 Maintaining Marketable Services

BSS provides various features and functions for maintaining marketable services. You can:

- Deactivate a published service.
- Update a service.
- Localize elements of a service definition.
- Copy a service.
- Delete a service.

Deactivating a Marketable Service

You can deactivate a published service if you want to withdraw it from a marketplace or if you want to update it. A deactivated service is no longer displayed in the service catalog. Thus, customers cannot subscribe to it any longer. Existing subscriptions are not affected.

To deactivate a marketable service, use the **Activate or deactivate services** menu option in the **Marketable service** menu of the BSS user interface.

Note: A marketplace manager of the marketplace owner organization is also allowed to deactivate a service you have published, for example, if you are in arrears with your payments. An email from the marketplace manager informs you about the reason for a deactivation. As soon as the problem is solved, the operator can reactivate the service again.

Updating a Marketable Service

You can update all elements of a marketable service's definition except for the technical service.

For updating a marketable service, it must be deactivated. Existing subscriptions are not affected by the update. Any changes you make are effective for new subscriptions only.

To update a service, use the **Update a service** menu option in the **Marketable service** menu of the BSS user interface.

Localizing Elements of a Service Definition

You can localize the following elements of a marketable service's definition to make them available in all languages supported by BSS:

- Service name for customers
- Short description
- Description

For localizing the elements, the marketable service must be deactivated. Existing subscriptions are not affected by the localization. Any changes you make are effective for new subscriptions only.

To localize the elements, use the **Update a service** menu option in the **Marketable service** menu of the BSS user interface, and click **Localize** on the **Update a service** page that is displayed.

Copying a Marketable Service

Copying a marketable service may be useful for offering an existing service with slightly different properties, for example, a higher service level with a higher price, or special discounts for a promotion campaign.

Copying a marketable service means:

- A new marketable service is created that is based on the same technical service as the copied service.
- The service definition is copied to the new service.
- The price model is copied to the new service.

To copy a service, use the **Copy a service** menu option in the **Marketable service** menu of the BSS user interface. Once you have created the copy, you can proceed with updating it as required.

Deleting a Marketable Service

You can delete a marketable service which you do not want to offer to customers any longer.

For deleting a marketable service, it must be deactivated. Existing subscriptions are not affected by the deletion. Your customers can continue to use their subscriptions.

To delete a service, use the **Delete a service** menu option in the **Marketable service** menu of the BSS user interface.

3 Price Models

A price model specifies whether and how much customers subscribing to a service will be charged for:

- Using the subscription as such.
- Each user assigned to the subscription.
- Individual events. These include, for example, login and logout by users to the underlying application through BSS, the completion of specific transactions, or the creation or deletion of specific data.
- Parameters and their options.

It depends on the implementation of the underlying application and on its integration with BSS whether fees for events or parameters can be defined.

In the following sections, you will find detailed information on the price model scope and the price model elements. In addition, you will find an overview of the functions that support you in defining and maintaining price models.

3.1 Price Model Scope

Price models can have different scopes in BSS.

Service price models are the basic price models. A service price model must be defined for every marketable service. Without defining a service price model, you cannot publish a service. You can define exactly one service price model for each service.

In addition to service price models, BSS allows you to define **customer price models**. A customer price model can be used, for example, to offer reductions to a long-time customer, or to make a new service available to a pilot customer at no charge.

A customer price model is specific to one customer and to one service that is used by the customer. It is not available for any other services offered to the same or a different customer. When you define a customer price model, BSS automatically creates a marketable service for this specific customer only.

For even greater flexibility, you can define **subscription price models**. A subscription price model is specific to one subscription of an individual customer. It is not available for any other subscriptions of the same or a different customer.

3.2 Price Model Elements

Each price model consists of different elements that determine how the charges for a service are calculated. The following elements can be defined:

- One-time fee
- Recurring charge per subscription
- Recurring charge per user
- Prices for parameters and options
- Prices for events
- Role-based pricing

Stepped prices are supported which allow the definition of ranges for which different price model elements apply. In addition, discounts can be granted to individual customers.

The calculation of the actual charges for a service varies depending on the combination of the price model elements that are defined. You can find a detailed description of each price model element together with an example for the cost calculation in the subsequent sections.

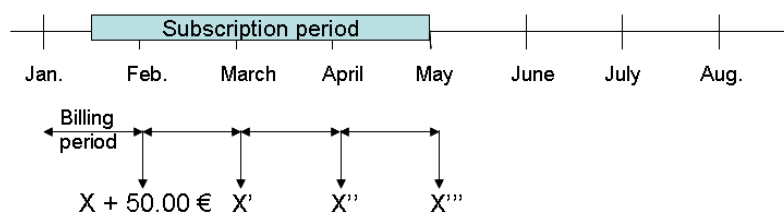
The calculation of the charges is based on milliseconds. The billing period, i.e. the period of time for which charges are calculated, is one month.

3.2.1 One-Time Fee

A one-time fee defines the amount a customer has to pay for a subscription in the first billing period of the subscription. It is added to the total charges for the first billing period. A one-time fee is independent of the number of users, events, or other usage data.

Example

Charges based on: MONTH
One-time fee: 50 € – to be paid with invoice for January



In the example above, 50.00 € are added to the charges for January.

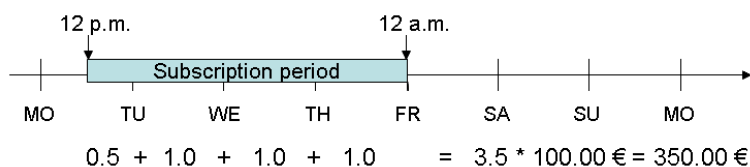
3.2.2 Recurring Charge per Subscription

For each subscription, a charge can be defined that a customer has to pay on a recurring basis. Monthly, weekly, daily, or hourly periods are supported. The recurring charge for a subscription is independent of the amount of users, events, or other usage data.

Example

A customer subscribes to a service on Monday, 12 o'clock p.m. The subscription ends on Friday, 12 o'clock a.m. The price model specifies a recurring charge per subscription of 100.00 € per DAY. The recurring charge for the subscription is calculated as follows:

Charges based on: DAY



3.2.3 Recurring Charge per User

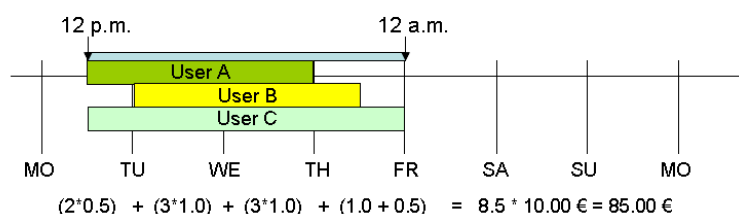
For every user assigned to a subscription, a charge can be defined that a customer has to pay on a recurring basis. Monthly, weekly, daily, or hourly periods are supported. A charge to be paid on a recurring basis per user can only be defined for services with the platform, login, or user access type. The recurring charge per user is independent of the recurring charge per subscription or other usage data.

For this type of charge, stepped prices can be applied: Recurring charges per user can be defined that depend on the number of users assigned to the subscription. For details, refer to *Stepped Prices* on page 22.

Example

3 users are assigned to a subscription. The price model specifies a recurring charge per user of 10.00 € per DAY. User A and User B use the service for 2.5 days, User C for 3.5 days. In this case, the charges are calculated as follows:

Charges based on: DAY



Example: Combination of Price Model Elements

Below you find a price model that combines the elements "one-time fee", "recurring charge per subscription", and "recurring charge per user":

- Charges based on: MONTH
- One-time fee: 30.00 €
- Recurring charge per subscription: 10.00 € per MONTH
- Recurring charge per user: 20.00 € per MONTH

The price model is applied to a service subscription that has 5 users assigned. 2 of them are assigned for half a month only. The other 3 users are assigned for the whole month.

The costs for the first billing period of one month are calculated as follows:

Usage time:	2 users * 0.5 + 3 users * 1 = 4	
Recurring charge per user:	Charge 20 € * 4	80.00 €
One-time fee:	30.00 €	30.00 €
Recurring charge per subscription:	10.00 €	10.00 €
TOTAL for first month:		120.00 €

For subsequent billing periods, the charges are calculated without the one-time fee.

3.2.4 Prices for Parameters and Options

A price model can define prices for service parameters and options. It depends on the implementation and integration of the underlying application whether and which parameters and options are available. You can define a price for every parameter and option, and specify whether this price is to be charged per subscription or per user assigned to the subscription. Numeric parameters are a multiplier for the price. For boolean parameters, the multiplier is `1` if the value is `true`. In all other cases, the multiplier is `0`.

For numeric parameters, stepped prices can be applied per subscription: Different prices can be defined depending on the parameter values. For details, refer to *Stepped Prices* on page 22.

The prices for parameters and options are independent of other price model elements.

Example

In the following example, the price for the parameter "number of folders that can be created" is set to 4.00 € per folder per subscription. The renaming of folders costs 1.00 € per user assigned to the subscription for the entire subscription period. It is assumed that 2 users are assigned to the subscription for the entire period (e.g. DAY). The customer chose to restrict the number of new folders to 45 when subscribing to the service.

In this case, the costs are calculated as follows:

$$(45 * 4.00 \text{ €}) + (2 * 1.00 \text{ €}) = 182.00 \text{ €}$$

Total amount: 182.00 €

If the users are not assigned for the entire subscription period, but for a few hours only, the costs are calculated on pro rata basis:

Assume that user A is assigned for 2 hours, user B for 4 hours. This is a total of 6 hours, i.e. 25 % of the entire subscription period (DAY). This results in the following calculation:

$$(45 * 4.00 \text{ €}) + (0.25 * 1.00 \text{ €}) = 180.25 \text{ €}$$

Total amount: 180.25 €

3.2.5 Prices for Events

A price model can define prices for individual, billable events. These include, for example, login and logout by users to the underlying application, the completion of specific transactions, or the creation or deletion of specific data. It depends on the implementation and integration of the underlying application which events are available.

For this type of charge, stepped prices can be applied: Different prices for an event can be defined depending on the number of occurrences per billing period. For details, refer to *Stepped Prices* on page 22.

Example

The following prices are defined for five types of event:

	Description	Price
A	Login of a user to the service.	1.00
B	Logout of a user from the service.	0.50
C	File Download	1.50
D	File Upload	1.00
E	New Folder	0.50

The diagram shows a weekly cycle from Monday (MO) to the next Monday (MO). A light blue bar labeled 'Subscription period' covers the days from Monday to Friday. Below the timeline, arrows indicate event occurrences: 'A' on Tuesday, 'B' on Wednesday, 'A' on Thursday, 'D' on Friday, 'C' on Saturday, 'C' on Sunday, and 'E' on Monday.

The charges for the events are calculated based on their occurrence. The subscription period is within one billing period.

Event A:	2 * 1.00 €	2.00 €
Event B:	1 * 0.50 €	0.50 €
Event C:	2 * 1.50 €	3.00 €
Event D:	1 * 1.00 €	1.00 €
Event E:	1 * 0.50 €	0.50 €
TOTAL for subscription period:		<u>7.00 €</u>

3.2.6 Role-Based Prices

If defined for the underlying application, roles can be used to grant specific privileges to different users. The roles are specified in the technical service definition as service roles. Service roles can be mapped to corresponding permissions in the application.

Service roles can be used for role-specific prices: For each role, a price can be defined. This price is added to the base price per user in the cost calculation for a billing period.

Example

The sample calculation below uses the following data:

Role-specific prices:

User role	Description	Price
Administrator		2.00
User		3.00
Guest		5.00

The customer has 100 users assigned to the subscription. All of them are assigned for an entire billing period. 5 users have the Administrator service role, 80 the User service role, and 15 the Guest service role for the subscription.

The costs are calculated as follows:

Role-specific charges: $(5 * 2.00 \text{ €}) + (80 * 3.00 \text{ €}) + (15 * 5.00 \text{ €}) = 325.00 \text{ €}$

Total amount: 325.00 €

3.2.7 Stepped Prices

Stepped prices allow for the definition of ranges for which different price factors apply. Step limits, i.e. the upper limits of ranges, can be set for:

- The **number of users** accessing a subscription. For example, 1 to 10 users cost 10.00 € per user, 11 to 100 users cost 8.00 € per user, any user above 100 costs 6.00 €.
- **Values of numeric parameters**. For example, uploading up to 100 files costs 1.00 € per file, any additional upload costs 0.50 € per file.
- The **number of events** occurring in the usage of a subscription. For example, up to 10 file downloads cost 1.00 € per download, any additional download costs 0.50 €.

Defining a price model with stepped prices can be useful if you want to provide:

- A price per user depending on the number of users.
- A price per event based on the number of events.
- A price for a parameter depending on its value. This is possible for numeric parameters (of type Integer or Long) only.

Stepped prices are independent of any other price model elements.

Example: Stepped Prices Depending on the Number of Users

In the example below, the price model specifies a recurring charge per user per HOUR. Stepped prices are applied depending on the number of users assigned to the subscription: When 2 users are assigned, the charge is 7.00 € each, the 3rd, 4th, and 5th user cost 6.00 € each, every additional user costs 5.00 € each. In the example, the customer assigns 4 users to the subscription for one hour.

Definition of stepped prices for a recurring charge per user:

Price per user	Step limit		
7.00	2	+	-
6.00	5		
5.00	Any above		

Four users are assigned to the subscription:

	User role	User name	First name	Last name
<input checked="" type="checkbox"/>	Standard	Smith	John	Smith
<input checked="" type="checkbox"/>	Standard	admin		
<input checked="" type="checkbox"/>	Standard	Miller	David	Miller
<input checked="" type="checkbox"/>	Standard			

For billing, an entire period of one month is assumed. The charge for using the subscription is calculated as follows:

$$(2 * 7.00 \text{ €}) + (2 * 6.00 \text{ €}) = 26.00 \text{ €}$$

Total amount: 26.00 €

Example calculation with users being assigned for different time spans:

Calculating the costs gets more complex as soon as users are assigned to a subscription for different time spans.

In the example below, the recurring charges per user are again based on HOUR:

- 3 users are assigned to the subscription for 30 minutes (= 1.5 users / HOUR)
- 2 users are assigned to the subscription for 3.5 hours (= 7 users / HOUR)
- 3 users are assigned to the subscription for 2 hours (= 6 users / HOUR)

The sum of 14.5 hours (1.5 + 7 + 6) the users are assigned to the subscription is taken as the basis for the calculation. The usage hours are mapped to actual users. As defined in the first example, 2 users cost 7 €, the next 3 users cost 6 €, any above cost 5 €.

The prices are calculated as follows:

$$(2 * 7.00 \text{ €}) + (3 * 6.00 \text{ €}) + (9.5 * 5.00 \text{ €}) = 79.50 \text{ €}$$

Total amount: 79.50 €

Example: Stepped Prices Depending on Parameter Values

In the example below, stepped prices are defined for the parameter "Number of folders that can be created". The first 40 folders cost 4.00 € each, the next 10 folders cost 3.50 € each, every folder that is created in addition costs 3.00 €. In the example, the customer chose to restrict the creation of folders to 45 when subscribing to the service.

Definition of stepped prices for a parameter:

Description	Price per user	Price per subscription [EUR]	Step limit
Number of folders that can be created.	0.00	4.00	40
		3.50	12-500
	3.00		50
			Any above

Customer choice when subscribing to the service:

Description	Value [minimum - maximum]	Price per user	Price per subscription	Step limit
Number of folders that can be created.	45	0.00	4.00	40
			3.50	50
			3.00	Any above

For billing, an entire period of one month is assumed. The charge for creating up to 45 folders is calculated as follows:

$$(40 * 4.00 \text{ €}) + (5 * 3.50 \text{ €}) = 177.50 \text{ €}$$

Total amount: 177.50 €

Example: Stepped Prices Depending on the Number of Events

In the example below, different prices for events are defined depending on the number of occurrences per billing period. Stepped prices are defined for the following events:

- Login of a user to the service
- File download
- File upload

Logout from the service and creating new folders is free of charge.

Description	Price	Step limit	
Login of a user to the service.	<input type="text" value="1.00"/>	<input type="text" value="100"/>	
	<input type="text" value="0.50"/>	<input type="text" value="200"/>	
	<input type="text" value="0.25"/>	<input type="text" value="300"/>	
	<input type="text" value="0.20"/>	Any above	
Logout of a user from the service.	<input type="text" value="0.00"/>		
File Download	<input type="text" value="0.25"/>	<input type="text" value="100"/>	
	<input type="text" value="0.20"/>	Any above	
File Upload	<input type="text" value="1.00"/>	<input type="text" value="100"/>	<input type="button" value="+"/> <input type="button" value="-"/>
	<input type="text" value="0.80"/>	Any above	
New Folder	<input type="text" value="0.00"/>		

For billing, an entire period of one month is assumed. The following events occur in the billing period:

- 500 times a user logs in to the service
- 300 files are downloaded
- 200 files are uploaded

The charge for these events is calculated as follows:

Login: $(100 * 1.00 \text{ €}) + (100 * 0.50 \text{ €}) + (100 * 0.25 \text{ €}) + (200 * 0.20 \text{ €}) = 215.00 \text{ €}$

Download: $(100 * 0.25 \text{ €}) + (200 * 0.20 \text{ €}) = 65.00 \text{ €}$

Upload: $(100 * 1.00 \text{ €}) + (100 * 0.80 \text{ €}) = 180.00 \text{ €}$

Total amount: 460.00 €

3.2.8 Discounts

For each customer organization, a discount can be defined which applies to all subscriptions of the customer. A discount may be valid as of the current or a future month. It can be restricted to a certain period of time. Before the time expires, the customer is notified by email so that he can react and contact the supplier.

The discount is defined as a percentage that is subtracted from the regular total price for a subscription for all billing data generated within the discount period.

A discount is completely independent of what a customer might purchase. If a discount is changed, the new discount is valid the next time the billing data is generated. Usually, a discount is only changed in agreement with the relevant customer.

3.3 Defining Price Models

To define a service price model, use the **Define for service** menu option in the **Price model** menu of the BSS user interface. Use the **Define for customer** menu option or the **Define for subscription** menu option to define a customer price model or a subscription price model, respectively.

Note: Discounts are specified with the basic information for a customer. For specifying a discount, use the **Manage customer** menu option in the **Customer** menu of the BSS user interface.

For each price model, you can decide whether the service is free of charge or whether the customer will be charged for using it.

If you decide to charge your customers, you can specify the following elements:

- A **price model description** that provides, for example, details on each element the price model consists of.
The description is displayed to customers on a marketplace when they request details on the service from the service catalog.
- A **free trial period** if you want to offer the service to your customers for free for a limited period of time. After this period, your customers are automatically charged according to the price model elements you define.
- **Charging conditions, prices for billable events, prices for parameters and options, and prices for roles** as described in *Price Model Elements* on page 17.

In addition, you have to enter a license agreement for each price model. It is presented to customers and needs to be accepted by them. The underlying technical service comes with licensing information specified by the technology provider. You are free to use this information or to update it, if required.

The license agreement is only relevant for service price models and customer price models. A subscription price model automatically uses the license agreement defined for the relevant service price model.

The description and the license agreement can be specified in one or several languages. For details, refer to *Maintaining Price Models* on page 25.

3.4 Maintaining Price Models

BSS provides various features and functions for maintaining price models. You can:

- Update the definition of a price model.
- Localize elements of the price model definition.
- Delete a customer price model.

Updating a Price Model

You can update all elements of a price model definition except for the service identifier, the customer in the case of a customer price model, and the customer subscription in the case of a subscription price model.

For updating a service price model or a customer price model, the corresponding marketable service must be deactivated. Changing a service price model or a customer price model does not affect existing subscriptions. The changes will only take effect for new subscriptions after the service has been activated again. Usually, you will change a customer price model only in agreement with the relevant customer.

If you change the price model of a specific subscription, the modified settings are valid for the current and future billing periods. This means that, for example, all user assignments or billable events that occurred in using the subscription in the current billing period before the change will be charged according to the new price model.

Usually, you will change a subscription price model only in agreement with the relevant customer. For changing a subscription price model, it does not matter whether the relevant service is activated or deactivated.

To update a service price model, use the **Define for service** menu option in the **Price model** menu of the BSS user interface. To update a customer price model or a subscription price model, use the **Define for customer** or **Define for subscription** menu option, respectively.

Localizing Elements of a Price Model

You can localize the description and the license agreement of a price model to make them available in all languages supported by BSS.

For localizing these elements, the corresponding marketable service must be deactivated. Existing subscriptions are not affected by the localization. Any changes you make are effective for new subscriptions only.

To localize the elements:

1. Use the **Define for service**, **Define for customer**, or **Define for subscription** menu option in the **Price model** menu of the BSS user interface depending on the type of price model whose elements you want to localize.
2. Select the price model to be localized on the **Define for service**, **Define for customer**, or **Define for subscription** page that is displayed.
3. Click **Localize** to enter the translations.

Deleting a Customer Price Model

You can delete a customer price model which you do not want to offer to a customer any longer. Usually, you delete a customer price model only in agreement with the relevant customer.

For deleting a customer price model, the relevant marketable service must be deactivated. Existing subscriptions are not affected by the deletion. The corresponding service price model is automatically applied for new subscriptions to the service.

To delete a customer price model, use the **Delete for customer** menu option in the **Price model** menu of the BSS user interface.

4 Customer Management

BSS offers various features for managing your organization's interaction with your customers. Customer management involves the following tasks:

- Registering customers.
- Using an external user authentication system.
- Defining custom attributes.
- Handling subscriptions.

These tasks are described in more detail in the sections below.

4.1 Registering Customers

You can register your customers with BSS so that they do not need to do this themselves. A customer you register automatically receives the login information that enables him to access the given marketplace and subscribe to services.

Registering a customer includes entering the following user data for the first administrator of the new customer organization:

- **Title, first name, and last name** of the administrator.
- **Email address** that is used for notifying the customer about the registration.
- **User ID** to be used for the administrator.
- **Language** in which the user interface, available documentation, and emails are presented to the administrator.

Registering a customer includes entering the data for the new organization:

- **Name, address, and phone number.**
- **Email address.**
- **Website.**
- **Country** where the customer organization is located.

The country determines the VAT rate to be used for calculating the billing data for the customer, provided a country-specific VAT rate is defined. For details, refer to *Managing VAT Rates* on page 30.

- **Description** that provides, for example, information from the company's profile.
- **Marketplace** to which the customer is directed.

To register a customer, use the **Register customer** menu option in the **Customer** menu of the BSS user interface.

After registering a customer, the administrator of the new customer organization is sent an email with the URL of the marketplace and the login data to be used for the first login. Once you have registered a customer, the organization data can only be edited by the customer's administrators. If you want to update the organization data, you must be registered as an administrator of your customer.

4.2 Using an External User Authentication System

Instead of maintaining user IDs and passwords in BSS, your customer may want to connect to his organization's identity management system for user authentication. BSS supports user authentication against remote LDAP systems via secure VPN connections.

When using a remote LDAP system, your customer does not need to register his users manually with BSS. The administrator of the customer organization can import the users, thus automatically registering them.

To enable access to the customer's LDAP system, you need to perform the following steps:

1. Create an LDAP properties file on your file system.
2. Define the LDAP connection parameters in the file. For a list of the relevant keys, refer to *LDAP Keys* on page 38.
3. Use the **LDAP settings** option when registering the customer to store the connection parameters specified in the properties file in BSS.

Access to the LDAP system is enabled for the customer as soon as the customer is registered with BSS. The administrator of the new customer organization can then import the required users from the remote LDAP system. The administrator can choose to import all users from the remote system or apply filter criteria to select specific users only. The imported users are sent an email with the URL for accessing the provided services.

User data maintained in the external LDAP system such as the password, first name, or last name, needs only be changed in the external LDAP system. If the data is changed, BSS automatically synchronizes its own data with it.

4.3 Defining Custom Attributes

Custom attributes are a means to store data needed for specific purposes such as controlling the cost and activity accounting. For example, you may want to specify the profit center to which a particular customer's revenue is to be accounted. Since there is no standard for such data, you can define your own custom attribute for storing the profit center. Another example for using custom attributes is the storage of a unique customer identifier since a customer name may not be unique. The identifier can be used by an external accounting system to uniquely identify the customer to whom specific billing data is related.

Custom attributes can be defined for customers and for subscriptions. They are included in the billing data that is generated every month as soon as values for them are specified for an individual customer or an individual subscription.

To define custom attributes, use the **Manage custom attributes** menu option in the **Account** menu of the BSS user interface.

To specify the value for a custom attribute for an individual customer, use the **Manage customer** menu option in the **Customer** menu of the BSS user interface. To specify the value for a custom attribute for an individual subscription, use the **Edit subscription attribute** menu option in the same menu.

4.4 Handling Subscriptions

You can view the details of all subscriptions customers have created for your services. The following information on a subscription is available:

- Activation date and number of users assigned to the subscription.
- Details on the marketable service to which the customer subscribed.
- Details on the underlying technical service.
- Details on the price model defined for the marketable service.

To view the details of a subscription, use the **View subscription** menu option in the **Customer** menu of the BSS user interface.

You can also explicitly terminate a customer subscription. This may be required, for example, if a customer does not comply with a license agreement or does not pay for a subscription. Terminating a subscription is possible even if users are currently using the underlying service.

To terminate a subscription, use the **Terminate a subscription** menu option in the **Customer** menu of the BSS user interface. As soon as you have terminated a subscription, the customer is sent an email informing him about the termination and the reason you have entered.

5 Billing and Payment

As users work with the services, BSS automatically calculates the charges based on the related price models. It aggregates all the events, users, and configuration data associated with a subscription and rates them according to the price models.

At regular intervals, BSS generates billing data that can be used for creating invoices. The invoices must be made available to the customers, and payments must be collected and returned to the suppliers and technology providers of the services. BSS offers various features for making the generated billing data available to external systems, thus initializing the creation of invoices and the collection of payments.

The following sections describe which preparatory steps you have to take for the billing and payment services in BSS, and how BSS supports you in creating invoices and collecting payments.

5.1 Preparing Billing and Payment

Billing and payment involves the following preparations:

- Specify the payment types to be offered to customers.
- Define the VAT rates to be used for calculating the charges.

5.1.1 Managing Payment Types

You are responsible for specifying how your customers may pay for their subscriptions:

- On receipt of invoice.
- With credit card.
- By direct debit.

Your operator is responsible for configuring the payment types you want to offer. Payment on receipt of invoice is automatically set up for all suppliers. This means that you can always allow your customers to pay on receipt of invoice without additional preparations by your operator. Payment on receipt of invoice implies that you are responsible for creating invoices and collecting payments. For details, refer to *Exporting Billing Data* on page 31.

If you request a payment type other than invoice, you need to have a contractual relationship with a commercial payment service provider (PSP). Your operator can then set up the types of payment as allowed in your agreement with the PSP. The responsibility for creating invoices and collecting payments is thus delegated to the PSP. For details, refer to *Integrating PSP Support* on page 31.

BSS allows you to specify the payment types for individual customers and individual services used by the customers. If you decide to offer more than one payment type to a customer, the customer is free to choose the type he prefers when subscribing to the service. If you remove a used payment type, the customer must specify a new one before he can continue using the service.

To determine which payment types are available to your customers for the offered services, use the **Manage payment types** menu option in the **Customer** menu of the BSS user interface.

5.1.2 Managing VAT Rates

In case you want to invoice usage charges for subscriptions as gross prices, you can enable VAT rate support for your supplier organization.

You can define a default VAT rate that applies to all prices for all customers. In addition, you can define country-specific or even customer-specific VAT rates. You can:

- Define a country-specific VAT rate for every country where you want to sell your services.

- Define a customer-specific VAT rate, for example, in case a customer organization has a subsidiary located in another country than its parent organization, or the manufacturing location differs from the customer's headquarters.

The VAT rate settings have the following effects on the cost calculation for a customer:

- If VAT rate support is disabled, prices are calculated as net prices; no VAT is added to the overall costs.
- A customer-specific VAT rate takes priority over any default or country-specific VAT rate.
- The country-specific VAT rate for the country where the customer organization is located is applied to the cost calculation when no customer-specific VAT rate is defined.
- The default VAT rate is used in all other cases.

The VAT rate does not affect any price model elements. The calculated VAT amount is added to the overall costs and results in the gross price to be paid by a customer.

To enable VAT rate support and set the VAT rates for your organization, use the **Manage VAT rates** menu option in the **Customer** menu of the BSS user interface.

5.2 Accounting

At regular intervals of one month, BSS checks its database content for organizations which have produced billing-relevant data, and collects the data for each of them. This is called a billing run. When the data has been collected for an organization, a separate transaction calculates the billing data for this organization. This transaction is called payment processing.

Your operator is responsible for monitoring the automatic billing runs and the payment processing. The billing runs and the payment processing produce the billing data that you can use as input for external accounting systems.

BSS offers the following support for creating invoices and collecting payments based on the billing data:

- You can export the billing data to make it available to external accounting systems.
- You can integrate and use the facilities of a commercial payment service provider (PSP).

5.2.1 Exporting Billing Data

You can export the billing data from BSS and process it using billing and payment facilities that have already been established in your organization. This is the standard procedure for all customers who have decided to pay on receipt of invoice.

You can export the data of one or several customers for a specific time frame. The exported data can then be forwarded, for example, to an accounting system which continues to process the data seamlessly.

To export billing data, use the **Export billing data** menu option in the **Customer** menu of the BSS user interface.

The billing data can be saved to an XML file or opened in an editor of your choice. You can edit the billing data and work with it as required.

For a detailed description of the elements and attributes that may occur in the XML file, refer to the *Developer's Guide*.

5.2.2 Integrating PSP Support

BSS enables you to use the facilities of a commercial payment service provider (PSP) for the creation of invoices and payment collection. The billing data generated in BSS can be transferred to a PSP

at regular intervals. The PSP can then create and deliver customer invoices, thus initiating the payment request.

For using the services of a PSP, you must have a valid contractual relationship with the PSP. Using the public Web service interface of BSS, the services of any PSP can be integrated for your organization. Your operator is responsible for defining the necessary configuration settings in BSS. He must specify the parameters for establishing the communication between BSS and the PSP, and he must set up the payment types you want to offer to your customers. The operator can set any of the payment types allowed for you by the respective agreement with the PSP.

For details on integrating the services of a PSP with BSS, refer to the *Operator's Guide* and the *Developer's Guide*.

6 Reporting

BSS offers comprehensive reports for different purposes and at different levels of detail.

The following reports are available for suppliers:

- **Service report.** It shows all marketable services with their existing subscriptions.
A service report supports you, for example, in identifying unsold services or in gaining a quick overview of the services that need special promotion.
- **Customer report.** It shows all your customers with basic customer data and the services they subscribed to. The report outputs whether a subscription is still active or has already ended.
A customer report supports you, for example, in gaining an overview of your customers and in quickly accessing customer data.
- **Billing report.** It shows a summary of all billing data for each customer.
- **Payment processing status report.** It shows the status of billing data calculations for all your customers and their subscriptions as well as the services they subscribed to.
- **Detailed billing report for an existing invoice of a customer.** It shows the billing data of the current billing period for a selected subscription of a customer.
In combination with the payment processing status report, this report provides a detailed audit log for billing and payment issues. The data can be used, for example, to mediate any disputes on payment or service access.

To create a report, use the **Create report** menu option in the **Account** menu of the BSS user interface and choose the desired report. Depending on the report type, you may have to enter additional report parameters.

The generated report is instantly displayed at the BSS user interface. You can choose to print the report or save it in several formats.

Note: Contact your platform operator if the reporting functionality is not available. He is responsible for defining the respective configuration parameters.

7 Integrating External Process Control

Organizations often have specific processes for registering users, subscribing to services, or defining prices. Usually, such processes include approval processes and are modeled and automated with a process control system.

Certain actions of customers and suppliers can be carried out under the control of an external process control system. You can configure so-called triggers which are invoked when specific actions are carried out on the user interface or marketplace. The triggers start the corresponding process in the process control system. If approval for the action is required, it is suspended until it is approved in the process control system. If no approval is required, the process control system is informed about the execution of the action.

As a prerequisite for controlling actions by processes, a notification service must exist and be deployed. This service forms the interface between the platform and the process control system. For details on implementing such a service, contact the platform operator.

Users can see all pending actions at the BSS user interface, cancel them, or delete aborted ones.

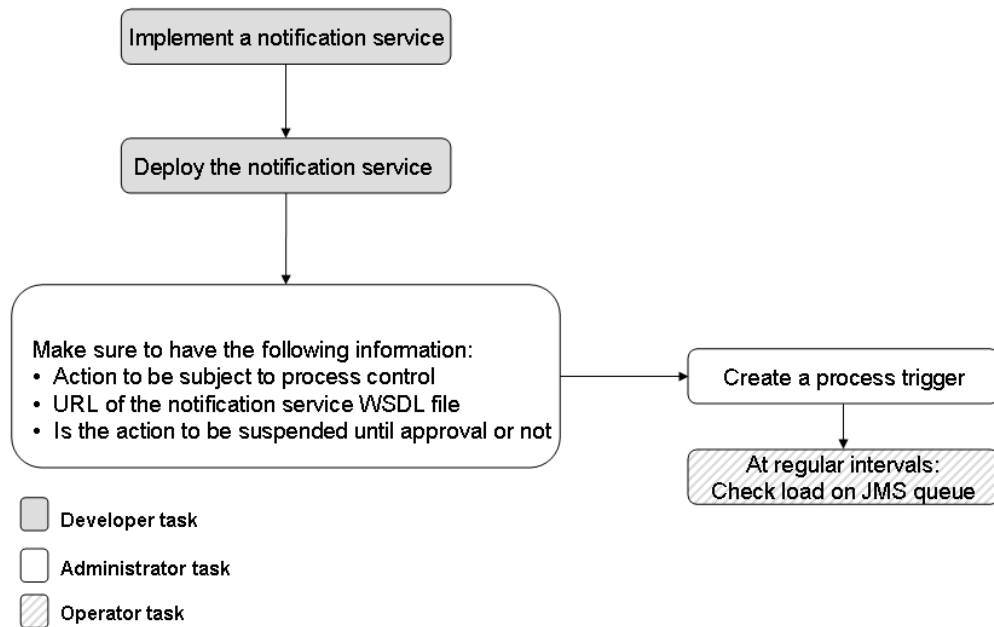
Process-Controlled Actions

The following actions may be subject to process control and thus to approval in an external process control system before they are executed in BSS:

- For **customer** organizations:
 - A subscription is to be added (`Subscribe to service`).
 - A subscription is to be terminated (`Terminate subscription`).
 - A subscription is to be changed, for example, renamed (`Modify subscription`).
 - A subscription is to be upgraded or downgraded (`Up/Downgrade subscription`).
 - A user is to be assigned to or removed from a subscription (`Assign users to subscription`).
 - A billing run for a customer is completed, and the billing data for a billing period is calculated (`Start billing run`).
- For **suppliers**:
 - A customer is to be registered (`Register customer`).
 - The payment types for a service or a customer are to be changed (`Manage payment types for customer`).
 - A marketable service is to be activated (`Activate service`).
 - A marketable service is to be deactivated (`Deactivate service`).
 - A billing run for a customer is completed, and the billing data for a billing period is calculated (`Start billing run`).

Involved Tasks

The following figure provides an overview of the steps required for integrating an external process control system with BSS:



For details on the implementation of a notification service, refer to the *Developer's Guide*. Checking the load on the JMS queue is a platform operator task and therefore described in the *Operator's Guide*.

Creating a Process Trigger

To create a process trigger, use the **Process triggers** menu option in the **Account** menu of the BSS user interface.

For configuring the triggers for your organization, you need the following information:

- Which action is to be subject to process control?
- How can the notification service of the external process control system be reached? You need the URL of the notification service WSDL file, for example:
`http://myServer:8280/NotificationService?wsdl`
- Is the action to be suspended until it is approved? If not, it will be executed in BSS and the external system will be informed about its execution. If the action is to be suspended, BSS will wait for a reply from the external system before the action is executed.

Appendix A: Menu Options and User Roles

This appendix provides an overview of the user roles required for using the menu options at the BSS user interface which are of relevance to a supplier. For details on the menu options, refer to the *Online Help*.

Account Menu

The following user roles are required for using the menu options in the **Account** menu:

Edit profile	Any user role
Change password	Any user role
Register new users	Administrator
Manage users	Administrator
Create report	Administrator
Process triggers	Administrator
Manage processes	Any user role
Manage custom attributes	Service manager

Customer Menu

The following user roles are required for using the menu options in the **Customer** menu:

Register customer	Service manager
Manage customer	Service manager
Manage payment types	Service manager
Manage VAT rates	Service manager
Export billing data	Service manager
View subscription	Service manager
Edit subscription attributes	Service manager
Terminate a subscription	Service manager

Marketable Service Menu

The following user roles are required for using the menu options in the **Marketable service** menu:

Define service	Service manager
Update service	Service manager
Copy service	Service manager
Delete service	Service manager
Define up/downgrade options	Service manager

Activate or deactivate services	Service manager
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Price Model Menu

The following user roles are required for using the menu options in the **Price model** menu:

Define for service	Service manager
Define for customer	Service manager
Delete for customer	Service manager
Define for subscription	Service manager

Appendix B: LDAP Keys

The following keys must be defined in a properties file for enabling access to a customer's LDAP system:

Key	Description
LDAP_URL	Mandatory. Provider URL of the LDAP server. This LDAP server is used to authenticate users of the relevant organization. Example: LDAP_URL=ldap://myldapserver.lan.est.company.de:389
LDAP_BASE_DN	Mandatory. Position in the LDAP directory tree at which to start looking for users. Example: LDAP_BASE_DN=ou=people,dc=est,dc=mycompany,dc=de
LDAP_PRINCIPAL	Optional. Name of the user who is allowed to query the LDAP server. Example: LDAP_PRINCIPAL=uid=admin,ou=system
LDAP_CREDENTIALS	Optional. Password of the user who is allowed to query the LDAP server. Example: LDAP_CREDENTIALS=secret
LDAP_ATTR_UID	Mandatory. LDAP attribute from which a user ID is read. The default is uid. Example: LDAP_ATTR_UID=uid
LDAP_ATTR_EMAIL	Optional. LDAP attribute from which the email address of a user is read. Example: LDAP_ATTR_EMAIL=scalixEmailAddress
LDAP_ATTR_FIRST_NAME	Optional. LDAP attribute from which the first name of a user is read. Example: LDAP_ATTR_FIRST_NAME=givenName
LDAP_ATTR_LAST_NAME	Optional. LDAP attribute from which the last name of a user is read. Example: LDAP_ATTR_LAST_NAME=sn
LDAP_ATTR_LOCALE	Optional. LDAP attribute from which the default language to be stored for a user is read. Example: LDAP_ATTR_LOCALE=locale
LDAP_CONTEXT_FACTORY	Mandatory. Context factory which provides the API to query the LDAP server. By default, this is com.sun.jndi.ldap.LdapCtxFactory. Example: LDAP_CONTEXT_FACTORY=com.sun.jndi.ldap.LdapCtxFactory

Glossary

Administrator

A privileged user role within an organization. Each organization has at least one administrator.

Application

A software, including procedures and documentation, which performs productive tasks for users.

Cloud

A metaphor for the Internet and an abstraction of the underlying infrastructure it conceals.

Cloud Computing

The provisioning of dynamically scalable and often virtualized resources as a service over the Internet on a utility basis.

Customer

An organization which subscribes to one or more marketable services in BSS in order to use the underlying applications in the Cloud.

Infrastructure as a Service (IaaS)

The delivery of computer infrastructure (typically a platform virtualization environment) as a service.

Marketable Service

A service offering to customers in BSS, based on a technical service. A marketable service defines prices, conditions, and restrictions for using the underlying application.

Marketplace

A virtual platform for suppliers in BSS to provide their services to customers.

Marketplace Owner

An organization which holds a marketplace in BSS, where one or more suppliers can offer their marketable services.

Marketplace Manager

A privileged user role within a marketplace owner organization.

Operator

An organization or person responsible for maintaining and operating BSS.

Organization

An organization typically represents a company, but it may also stand for a department of a company or a single person. An organization has a unique account and ID, and is assigned one or more of the following roles: technology provider, supplier, customer, marketplace owner, operator.

Payment Service Provider (PSP)

A company that offers suppliers online services for accepting electronic payments by a variety of payment methods including credit card or bank-based payments such as direct debit or bank transfer. Suppliers can use the services of a PSP for the creation of invoices and payment collection.

Payment Type

A specification of how a customer may pay for the usage of his subscriptions. The operator defines the payment types available in BSS; the supplier determines which payment types are offered to his customers, for example, payment on receipt of invoice, direct debit, or credit card.

Platform as a Service (PaaS)

The delivery of a computing platform and solution stack as a service.

Price Model

A specification for a marketable service defining whether and how much customers subscribing to the service will be charged for the subscription as such, each user assigned to the subscription, specific events, or parameters and their options.

Role

A collection of authorities that control which actions can be carried out by an organization or user to whom the role is assigned.

Service

Generally, a discretely defined set of contiguous or autonomous business or technical functionality, for example, an infrastructure or Web service. BSS distinguishes between technical services and marketable services, and uses the term "service" as a synonym for "marketable service".

Service Manager

A privileged user role within a supplier organization.

Standard User

A non-privileged user role within an organization.

Software as a Service (SaaS)

A model of software deployment where a provider licenses an application to customers for use as a service on demand.

Subscription

An agreement registered by a customer for a marketable service in BSS. By subscribing to a service, the customer is given access to the underlying application under the conditions defined in the marketable service.

Supplier

An organization which defines marketable services in BSS for offering applications provisioned by technology providers to customers.

Technical Service

The representation of an application in BSS. A technical service describes parameters and interfaces of the underlying application and is the basis for one or more marketable services.

Technology Manager

A privileged user role within a technology provider organization.

Technology Provider

An organization which provisions applications as technical services in BSS.