Copyright

Copyright © 2013, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions
on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in
your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast,
modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any
means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for
interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-
free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing
it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated
software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government
end users are "commercial computer software" pursuant to the applicable Federal Acquisition
Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure,
modification, and adaptation of the programs, including any operating system, integrated software, any
programs installed on the hardware, and/or documentation, shall be subject to license terms and license
restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management
applications. It is not developed or intended for use in any inherently dangerous applications, including
applications that may create a risk of personal injury. If you use this software or hardware in dangerous
applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and
other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any
damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be
trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC
trademarks are used under license and are trademarks or registered trademarks of SPARC
International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or
registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information on content,
products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and
expressly disclaim all warranties of any kind with respect to third-party content, products, and services.
Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due
to your access to or use of third-party content, products, or services.
Contents

About This Document ...........................................................................................................................................v
Document Conventions ...........................................................................................................................................vi

Chapter 1

System Overview .......................................................................................................................................................1
Overview..............................................................................................................................................................1
Vouchers Introduction.............................................................................................................................................1
Security.................................................................................................................................................................4
Power Charge Scenarios......................................................................................................................................4

Chapter 2

Voucher Management ..............................................................................................................................................7
Overview..............................................................................................................................................................7
Voucher Manager Module.....................................................................................................................................7
Voucher Type.........................................................................................................................................................10
Voucher Batches.....................................................................................................................................................26
Vouchers...............................................................................................................................................................34
Voucher Validation..................................................................................................................................................37
Voucher Recharge....................................................................................................................................................39
Voucher Ranges.......................................................................................................................................................41
GPG Public Keys.......................................................................................................................................................43
AVD Configuration..................................................................................................................................................45

NCC Glossary of Terms ..........................................................................................................................................49

Index ......................................................................................................................................................................51
About This Document

Scope
The scope of this document includes all functionality a user must know in order to effectively operate the CCS Voucher Management feature. It does not include detailed design of the service.

Audience
This guide is written primarily for administrators who are responsible for creating and maintaining Vouchers. However, the overview sections of the document are useful to anyone requiring an introduction.

Prerequisites
Although there are no prerequisites for using this guide, familiarity with the target platform would be an advantage.

This manual describes system tasks that should only be carried out by suitably trained operators.

Related documents
The following documents are related to this document:

- NCC Feature Nodes Reference Guide
- SPM User's Guide
- CCS Notification Management User's Guide
- CCS Task Management User's Guide
- CCS Transfer Management User's Guide
- CCS User's Guide
- SMS User's Guide
- ACS User’s Guide
- CPE User's Guide
- CCS Technical Guide
- CCS Voucher Manager Technical Guide
Document Conventions

Typographical Conventions

The following terms and typographical conventions are used in the Oracle Communications Network Charging and Control (NCC) documentation.

<table>
<thead>
<tr>
<th>Formatting convention</th>
<th>Type of information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special Bold</strong></td>
<td>Items you must select, such as names of tabs.</td>
</tr>
<tr>
<td></td>
<td>Names of database tables and fields.</td>
</tr>
<tr>
<td><strong>Italics</strong></td>
<td>Name of a document, chapter, topic or other publication.</td>
</tr>
<tr>
<td></td>
<td>Emphasis within text.</td>
</tr>
<tr>
<td><strong>Button</strong></td>
<td>The name of a button to click or a key to press.</td>
</tr>
<tr>
<td><strong>Example:</strong> To close the window, either click <strong>Close</strong>, or press Esc.</td>
<td></td>
</tr>
<tr>
<td><strong>Key+Key</strong></td>
<td>Key combinations for which the user must press and hold down one key and then press another.</td>
</tr>
<tr>
<td><strong>Example:</strong> Ctrl+P, or Alt+F4.</td>
<td></td>
</tr>
<tr>
<td><strong>Monospace</strong></td>
<td>Examples of code or standard output.</td>
</tr>
<tr>
<td><strong>Monospace Bold</strong></td>
<td>Text that you must enter.</td>
</tr>
<tr>
<td><strong>variable</strong></td>
<td>Used to indicate variables or text that should be replaced.</td>
</tr>
<tr>
<td><strong>menu option &gt; menu option &gt;</strong></td>
<td>Used to indicate the cascading menu option to be selected, or the location path of a file.</td>
</tr>
<tr>
<td><strong>Example:</strong> Operator Functions &gt; Report Functions</td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong> /IN/html/SMS/Helptext/</td>
<td></td>
</tr>
<tr>
<td><strong>hypertext link</strong></td>
<td>Used to indicate a hypertext link on an HTML page.</td>
</tr>
</tbody>
</table>

Specialized terms and acronyms are defined in the Glossary at the end of this guide.
Overview

Introduction

This chapter explains the main features of Voucher Manager and describes the basic functionality of the system.

In this chapter

This chapter contains the following topics.

Vouchers Introduction 1
Security 4
Power Charge Scenarios 4

Vouchers Introduction

Introduction

Vouchers are credit coupons which are used to add value to wallet balances.

Telcos can create and distribute the vouchers according to their preference and need. They can be distributed in card form or as mail-out discount offers. They may be purchased from the telco.

CCS provides systems for:

- Creating voucher types and batches
- Securing vouchers (through PINs)
- Redeeming vouchers
- Automatic deletion of archived vouchers

Note: Vouchers are sometimes referred to as scratch cards.

CCS component

Note: Vouchers are part of the Prepaid Charging solution and build on functionality provided by CCS. To fully understand how tasks work, you must also refer to CCS User's Guide.

Voucher data

Each voucher contains this data:

- Product types they can be used for
- Balance type to credit
- Amount to be credited
- Expiry date for each new bucket
  - Pre-Use expiry period sets date a voucher must first be used or its balance will expire
Balance expiry period sets the time after a voucher is first used after which any outstanding voucher balance will expire. Vouchers used for recharge may affect multiple balance types.

**Voucher types**

Voucher types provide a voucher's core data. It also defines how a recharge can be applied. For more information about voucher types, see CCS User's Guide (see "Voucher Type" on page 10).

**Voucher life cycle**

This diagram shows the life cycle of a voucher.

*Note: Voucher batches have a slightly different life cycle.*

**Voucher states**

Here is the list of voucher and voucher batch states:

- Created
Active

- Frozen

When you create a voucher batch the batch state is set to Created. You must set the batch state to Active if you want to redeem the vouchers in the batch. You may also need to set the state of each voucher within the batch to Active.

**Note:** A voucher may only be redeemed if it is in an active state and the voucher batch it belongs to is also in an active state.

### Reported voucher state

The status of an individual voucher or a range of vouchers within a batch can be updated. This means that individual vouchers within the batch may have different states to the batch itself. When the batch and voucher states are different, the batch state may override the voucher state so that the reported state of the voucher is different to its actual state.

This table shows what the reported voucher state will be for the available voucher and batch states.

<table>
<thead>
<tr>
<th>Actual Voucher State</th>
<th>Created Batch</th>
<th>Active Batch</th>
<th>Unavailable Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Created</td>
<td>Voucher reported as created</td>
<td>Voucher reported as created</td>
<td>Voucher reported as frozen</td>
</tr>
<tr>
<td>Active</td>
<td>Voucher reported as created</td>
<td>Voucher reported as active</td>
<td>Voucher reported as frozen</td>
</tr>
<tr>
<td>Frozen</td>
<td>Voucher reported as created</td>
<td>Voucher reported as frozen</td>
<td>Voucher reported as frozen</td>
</tr>
<tr>
<td>Deleted</td>
<td>Voucher reported as created</td>
<td>Voucher reported as deleted</td>
<td>Voucher reported as frozen</td>
</tr>
</tbody>
</table>

### Redeeming vouchers

Vouchers can be redeemed by:

- Providing voucher details using the IVR menu set up in a control plan
- Customer service representatives using the Voucher Recharge (on page 39) tab on the Voucher Management screen.

Redeeming a voucher changes wallet balances and voucher status. Voucher recharges add value to the personal wallet by default. The business wallet can be selected using normal wallet selection features. If the subscriber only has one wallet, their recharge is automatically applied to that wallet. Wallet balance changes are made using VWS's voucher subsystem.

### Automatic voucher deletion

Vouchers that have been redeemed will be archived on a weekly basis. The archived vouchers will be automatically deleted from the VWS after a configurable number of weeks have elapsed.

The number of weeks to keep archived vouchers is set on the AVD Configuration (on page 45) tab. This tab also displays the date ranges for which redeemed vouchers will be deleted.

### User access

User access to the Voucher Manager functionality is managed through the user templates defined in the SMS User Management screen. For more information on creating and maintaining user templates, refer to SMS User's Guide.
Security

Voucher PINs

Vouchers generally come with a PIN. PINs validate the voucher by number.

**Note:** Voucher PINs are different from Bad-PIN counts for credit cards.

For more information about how PINs are generated and checked, see *CCS Technical Guide*.

Generating GPG keys

A public and private GPG key can be generated from a pass-phrase. The private key is held only by the print shop and used only to decode the encrypted batch file. The public key is used to encrypt the file and must therefore be supplied to the operator who will be responsible for generating the voucher batch file.

For more information about using GPG keys with exported files, see *Print Shop Operations Guide*.

CB-10 voucher security

If CB-10 voucher security functionality has been installed and activated on your system and the HRNGEN private keys have been generated, you will be able to use CB10 and CB10 HRN encryption when creating voucher batches. The authentication rules for generating CB10 and CB10 HRN encryption parameters are configured on the **Security** tab on the CCS Service Management screen.

**Note:** For more information on CB10 authentication rules, see *CCS User's Guide*. For more information on enabling the CB10 voucher security feature, see *NCC Installation Guide*.

Power Charge Scenarios

Introduction

A scenario is an alternative set of multiple balances that is associated with a voucher type. When a voucher is redeemed, a subscriber can select a particular scenario from the different options available for redeeming the voucher.

**Note:** It is possible for a scenario to increment a balance, or extend the expiry date for the balance, or both.

Examples of scenarios

A single voucher can be redeemed in multiple ways, depending on the options available at redemption. The subscriber is presented with a list of scenarios and prompted to select one.

For example, a voucher can be redeemed one of the following ways:

- 120 minutes of international calling (180 minutes during a special promotion)
- 200 short messages made within a 30 day period (300 SMS during a special promotion)
- Gold customers will receive an additional 10% on their chosen option

Redemption rules

Scenarios are applied and redeemed according to the following rules:

- The default scenario value ‘0’ will always be applied in addition to any selected scenario.
- The scenario name selected by the subscriber must match a scenario defined against the voucher type for the recharge to occur.
• If only one scenario exists against the voucher type, no scenario needs to be selected.

**Redemption notifications**

When a subscriber’s account is changed due to a voucher being redeemed, a real-time wallet notification is sometimes sent to the subscriber’s handset. For more information about wallet notifications, see Real-Time Wallet Notifications.

For vouchers which are redeemed with a scenario, a notification template must be configured for each scenario. The notification template is selected by matching the scenario number to the digit on the end of the notification template name.

**Example:** For a basic recharge notification with two scenarios, the following two notifications must be configured:

• BasicRecharge1
• BasicRecharge2
Chapter 2

Voucher Management

Overview

Introduction

This chapter explains how to create and manage vouchers.

In this chapter

This chapter contains the following topics.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voucher Manager Module</td>
<td>7</td>
</tr>
<tr>
<td>Voucher Type</td>
<td>10</td>
</tr>
<tr>
<td>Voucher Batches</td>
<td>26</td>
</tr>
<tr>
<td>Vouchers</td>
<td>34</td>
</tr>
<tr>
<td>Voucher Validation</td>
<td>37</td>
</tr>
<tr>
<td>Voucher Recharge</td>
<td>39</td>
</tr>
<tr>
<td>Voucher Ranges</td>
<td>41</td>
</tr>
<tr>
<td>GPG Public Keys</td>
<td>43</td>
</tr>
<tr>
<td>AVD Configuration</td>
<td>45</td>
</tr>
</tbody>
</table>

Voucher Manager Module

Introduction

The Voucher Management screen allows you to configure vouchers. It contains these tabs:

- **Voucher Type** (on page 10)
- **Voucher Batches** (on page 26)
- **Vouchers** (on page 34)
- **Voucher Validation** (on page 37)
- **Voucher Recharge** (on page 39)
- **Voucher Ranges** (on page 41)
- **GPG Public Keys** (on page 43)
- **AVD Configuration** (on page 45)

Accessing the Voucher Manager screen

Follow these steps to open the Voucher Manager screen.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Select the Services menu from the SMS main screen.</td>
</tr>
</tbody>
</table>
## Step 2

<table>
<thead>
<tr>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select <strong>Voucher Manager</strong>.</td>
</tr>
</tbody>
</table>

**Result:** You see the Voucher Manager screen.

---

**Note:** The services which are available under the **Services** menu depend on the components which have been installed, and the permissions of the user. The services displayed in this screen shot may not match the services you have available on your system.
Voucher Manager screen

Here is an example Voucher Manager screen.
Voucher management relationships diagram

This diagram shows the relationships between the various screens available in the Voucher Manager module.

The arrows show which screen populates a drop down field on the target screen and consequently the order in which screens must be filled in. The objects in shaded boxes are screens in different modules or applications which have a relationship with this module.

Voucher Type

Introduction

The Voucher Type tab allows you to add, modify, or delete voucher types.

The voucher type determines the tariff plan, the restriction control plan, and the value of the calls for which recharges (including vouchers) are valid.

For each voucher type, you can define:

- A limited list of available product types
- Product swap rules
- Multiple balance types
- Associate tax plans to voucher type recharges
Chapter 2

Voucher Management

Power charge scenarios
Voucher types define core details and restrictions for recharges such as vouchers and the balance increase part of credit transfers.

For more information about redeeming vouchers, see CCS Voucher Manager User's Guide (see "Redeeming vouchers" on page 3). For more information about credit transfers, see CCS Transfer Management User's Guide.

Limited Product Type
You can define a limited list of product types a voucher type can recharge. This can be used to target customers with specific product types.

Product Swap
You can define a set of product swap rules which are executed when the recharge is redeemed.

You define a product swap rule by specifying the product type to change from, and the product type to change to. When the voucher is redeemed, wallets assigned to the 'From' product type are changed to the matching 'To' product type.

If you limited the product types that could be recharged, you can only choose the 'From' product type from the limited set. Otherwise, you can choose from all the available product types for the current service provider. The list of available product types to swap to is determined by the product type swap configuration set up in the Subscriber Management screen.

Multiple balance type
You can add more than one balance type to a voucher type. When a recharge or voucher is redeemed, all balance types associated with the voucher type are recharged. This can include both monetary balance types (such as general cash or promotional cash) and non-monetary balance types (such as free SMS or time). You can add more than one entry for the same balance type, with different details for each entry, including:

- Unique expiry dates and extension policies
- Period during which this balance type entry can be recharged
- Product types for which this balance type entry can be recharged

Tax Plan
You can associate a tax plan to a voucher recharge or voucher type recharge. A single tax plan can be optionally associated with each balance of a voucher type. This tax plan applies only to the cash amount.

If an inclusive tax plan is associated with the voucher, the tax component of the cash value is deducted from the voucher before crediting the account. Exclusive tax plans associated with a voucher balance will cause the full amount of the voucher to be credited to the account.

EDRs generated from voucher recharges will show the cash amount credited to the account and the tax component.

Example 1:
Consider a voucher defined for $11 and 200 SMSs. If the tax plan is inclusive with a tax definition of 10%, then the user is credited with $10 and the 200 SMSs. The EDR will report the $10 credit and the $1 tax.

Example 2:
Consider a voucher defined for $10 and 200 SMSs. If the tax plan is exclusive with a tax definition 10%, then the user is credited with a total of $10 and 200 SMSs. The EDR will report the $10 credit and the $1 tax.
**Power charge scenarios**

You can associate recharge scenarios to a balance type for a voucher type. The voucher type can then be redeemed in multiple ways depending on the scenario options available when it is redeemed. Scenarios can include both monetary balance types, such as general cash or promotional cash, and non-monetary balance types, such as free SMS or time. You can:

- Increment a balance
- Extend the expiry date for the balance
- Both

**Note:** The scenarios functionality will only be available in the screens if it has been activated. For more information on activating scenarios, see *CCS Technical Guide*.

**Voucher Type tab**

Here is an example Voucher Type tab.
# Voucher Types fields

This table describes the function of each field.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Name                       | A unique name for the voucher type.  
  **Note:** If this voucher type uses scenarios and you will be sending real-time wallet notifications for recharges, this field must be reflected in the name of the template you use for the notification. For more information about the required format, see *CCS Technical Guide*. |
| CDR Description            | The description to use for EDRs which are produced by vouchers with this voucher type.  
  **Tip:** You can use a maximum of 100 characters. |
| Description                | A brief description of the voucher type. |
| Pre-use Expiry Period      | The period (in days and hours) between this voucher being issued and when it will expire.  
  **Example:** If a voucher has a pre-use expiry period of seven days, the holder of the voucher has seven days from the date of issue to begin using the voucher. If not used in seven days, the voucher expires and is no longer valid. |
| Wallet Expiry Period       | The period (in days and hours, or months, depending upon the Expire Period Type) between the wallet being activated and when it will expire.  
  **Tip:** The `expireAtMidnight` configuration parameter in `eserv.config` overrides the displayed hour for expiry and will expire the wallet only at midnight on the expiry date. For further information about this configuration option, see *VWS Technical Guide*. |
| Expiry Period Type         | The unit the wallet expiry period is calculated in.  
  Select either:  
  - Hours - the wallet expiry is calculated in days and hours  
  - Months - the wallet expiry is calculated in months |
| Wallet Expiry Policy       | Which date to calculate the wallet expiry period from.  
  Select either:  
  - Best - extends expiry from the date the voucher is redeemed (this will only apply if there is a positive effect).  
  - Extend - extends expiry from the current expiry date. |
| Limited Product Types      | The product types which can use vouchers with this type. |
| Product Swap Rules         | When a voucher is redeemed, the subscriber’s existing product type can be changed to a new product type. Subscribers with the product type in the From column are changed to the product type in the To column in the same row when vouchers with this type are redeemed.  
  If no rules are set, the subscriber will continue to have their existing product type. |
| Scenario                   | The scenarios to associate with the balance type when the voucher is redeemed.  
  **Tip:** You can add multiple scenarios to the same balance type by adding |
### Adding voucher types

Follow these steps to add a new voucher type.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Management screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>From the <strong>Voucher Type</strong> tab, click <strong>New</strong>. <strong>Result:</strong> You see the New Voucher Type screen.</td>
</tr>
<tr>
<td>3</td>
<td>Start to configure this record by entering data in the fields in the top left of this screen. For more information about the fields on this screen, see <strong>Voucher Types fields</strong> (on page 13).</td>
</tr>
<tr>
<td>4</td>
<td>If you want to limit the available product types for the voucher type, add the product types which can use vouchers with this type. For more information about adding product types to this list, see <strong>Adding limited product types</strong> (on page 15).</td>
</tr>
</tbody>
</table>
### Chapter 2, Voucher Management

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>If you want to define product swap rules for the voucher type, add the product type swap rules you want to apply when vouchers of this type are redeemed to the Product Swap Rules list. For more information about adding these rules, see Adding product swap rules (on page 16).</td>
</tr>
</tbody>
</table>
| 6    | If the Scenario panel is visible in the screen, then add the scenarios to associate with the balance type when vouchers of this type are redeemed. For details, see Adding scenarios to a voucher type (on page 19).  
**Tip:** You can add multiple scenarios to the same balance type by adding different scenario values.  
**Note:** The Scenario panel will only be visible in the screen if the Scenarios functionality has been activated on your system. |
| 7    | Add the balance types that this type of voucher recharges when it is redeemed. For details, see Adding balance types to a voucher type.  
**Tip:** You can add multiple balance types to the same voucher type and you can specify the product type for each balance type. You can include the same balance type more than once. |
| 8    | Click Save. |

### Adding limited product types

Follow these steps to add a product type to the limited product types list on the New or the Edit Voucher Type screen.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 1    | In the Limited Product Types area, click Add.  
**Result:** You see the Add Limited Product Type screen.  
![Add Limited Product Type](image) |
| 2    | From the Product Type drop down list, select the product type you want to add to the list.  
3    | Click Save.  
**Result:** The product type is added to the limited products list and you are returned to the Voucher Type screen. |
**Editing limited product types**

Follow these steps to edit a product type in the limited product types list on the New or the Edit Voucher Type screen.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 1    | In the Limited Product Types area, select the product type from the list and click **Edit**.  
**Result:** You see the Edit Limited Product Type screen. |
| 2    | In the Product Type drop down list, select the new product type you want to add to the list. |
| 3    | Click **Save**.  
**Result:** The product type in the limited products list is updated and you are returned to the Voucher Type screen. |

**Adding product swap rules**

Follow these steps to add a product swap rule to the product swap rules list on the New or the Edit Voucher Type screen.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 1    | In the Product Swap Rules area, click **Add**.  
**Result:** You see the Add Product Swap Rule screen. |
| 2    | From the From drop down list, select the product type to swap from. |
| 3    | From the To drop down list, select the product type to swap to. |
| 4    | Click **Save**.  
**Result:** The product swap rule is added to the list of rules and you are returned to the Voucher Type screen. |
Editing product swap rules

Follow these steps to edit a product swap rule in the product swap rules list on the New or the Edit Voucher Type screen.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 1    | In the **Product Swap Rules** area, select the swap rule and click **Edit**.  
**Result:** You see the Edit Product Swap Rule screen. |
| 2    | From the **From** drop down list, select the product type to swap from. |
| 3    | From the **To** drop down list, select the product type to swap to. |
| 4    | Click **Save**.  
**Result:** The product swap rule in the list of rules is updated and you are returned to the Voucher Type screen. |

Editing voucher types

Follow these steps to edit an existing voucher type.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Management screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>On the <strong>Voucher Type</strong> tab, select the record to edit.</td>
</tr>
</tbody>
</table>
| 3    | Click **Edit**.  
**Result:** You see the Edit Voucher Type screen. |
4 Make the changes that you need to by editing the fields in this screen.

5 In the Limited Product Types area, to:
   - Add a product type to the list, click Add. See Adding limited product types (on page 15).
   - Edit a product type already in the list, select it in the Product Type list, and click Edit. See Editing limited product types (on page 16).
   - Remove a previously selected product type, select it in the Product Type list, click Delete, and then click Yes to confirm the deletion.

6 In the Product Swap Rules area, to:
   - Add a product swap rule to the list, click Add. See Adding product swap rules (on page 16).
   - Edit a product swap rule already in the list, select it in the From/To list, and click Edit. See Editing product swap rules (on page 17).
   - Remove a previously selected product swap rule, select it in the From/To list, click Delete, and then click Yes to confirm the deletion.

7 Add the scenarios to associate with the balance type when vouchers of this type are redeemed. For details, see Adding scenarios to a voucher type (on page 19).
   Tip: You can add multiple scenarios to the same balance type by adding different scenario values.

8 Add the balance types that this type of voucher recharges when it is redeemed. For details, see Adding balance types to a voucher type.
   Tip: You can add multiple balance types to the same voucher type and you can specify the product type for each balance type. You can include the same balance type more than once.

9 Click Save.
Deleting voucher types

Follow these steps to delete an existing voucher type.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Management screen, select the Service Provider from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>In the table on the Voucher Type tab, select the record to delete.</td>
</tr>
</tbody>
</table>
| 3    | Click Delete.  
   **Result:** You see the Delete Confirmation prompt. |
| 4    | Click OK to delete the record from the database.  
   **Result:** The record is deleted and you see the Voucher Type prompt. |
| 5    | Click OK. |

Adding scenarios to a voucher type

Follow these steps to add a scenario to the scenario list on the New or Edit Voucher Type screens.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 1    | In the Scenario area, click Add.  
   **Result:** You see the New Scenario screen. |
| 2    | From the Scenario ID drop down list, select the scenario number to associate to the scenario. |
| 3    | In the Scenario Name field, enter a name for the scenario. |
| 4    | Click Save.  
   **Result:** You are returned to the New/Edit Voucher Type screen and the new scenario is added to the list of scenarios. |

Editing scenarios for a voucher type

Follow these steps to edit a scenario in the scenario list on the New, or Edit Voucher Type screen.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the New or Edit Voucher Type screen, select the scenario to edit.</td>
</tr>
</tbody>
</table>
2 In the Scenario area, click Edit.
Result: You see the Edit Scenario screen.

3 Edit the details as described in Adding scenarios to a voucher type (on page 19).
4 Click Save.

Deleting scenarios for a voucher type

Follow these steps to delete a scenario in the scenario list on the New, or Edit Voucher Type screen.

1 In the New or the Edit Voucher Type screen, select the scenario to delete.
2 Click Delete.
Result: The record is deleted from the list of scenarios.

Balance type fields

This table describes the function of each field.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance Type</td>
<td>The balance type to recharge when vouchers of this type are redeemed. This field is populated by the records on the Balance Types tab. &lt;br&gt;&lt;br&gt;Note: Any valid balance type can be selected. This includes non cash balance types, such as time.</td>
</tr>
<tr>
<td>Reload Counter</td>
<td>Select to reload the counter.</td>
</tr>
<tr>
<td>Value</td>
<td>The amount to recharge the balances of the balance type selected in the Balance Type field.</td>
</tr>
<tr>
<td>Tax Plan</td>
<td>The tax plan associated with this voucher type. &lt;br&gt;&lt;br&gt;Note: For inclusive tax, the tax component will be removed before crediting the subscriber.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Balance Expiry Period  | The period between when the voucher is activated and when the balance will expire. Depending on the selection in the expiry period type options, enter one of: • Days and hours • Months  
**Example:** If a voucher has a pre-use expiry period of seven days, the holder of the voucher has seven days from the date of issue to begin using the voucher. If not used in seven days, the voucher expires and is no longer valid.  
**Note:** Month expiries set expiry dates measured in calendar months. If a bucket is created on the 31\(^{st}\) of the month, and the expiry will be on month which has 30 days or less, the expiry date is set for the 1\(^{st}\) of the month after. For example, a two-month bucket created on the 31\(^{st}\) of December will expire on the 1\(^{st}\) of March.  
**Tip:** The expireAtMidnight configuration option in eserv.config overrides the displayed hour for expiry and will expire the balance only at midnight on the expiry date. For further information about this configuration option, see VWS Technical Guide. |
| Expiry Period Type     | The unit the balance expiry period is calculated in. Select either: • Hours - the balance expiry is calculated in days and hours. • Months - the balance expiry is calculated in months.                                                                                                                                                     |
| Applicable Start Date  | (Optional) Sets the start date when balances of this type can be redeemed by vouchers of this type. To activate this field, select the check box to the right of the field, then, in the date selection boxes, select the day, month and year for the start date.                                                                                                                   |
| Applicable End Date    | (Optional) Sets the date when balances of this type can no longer be redeemed by vouchers of this type. To activate this field, select the check box to the right of the field, then, in the date selection boxes, select the day, month and year for the end date.                                                                                                      |
| Offset Date            | (Optional) Configures the offset date to apply when balances of this type are recharged.  
**Note:** You can only apply an offset date to chargeable or cross balance types. You activate these fields by selecting the check box to the right of the offset date fields area. You specify the offset date by selecting one of the following: • Date to use the date selection boxes to enter a specific date. • Days/Hours to set the offset date to the system date plus the specified number of days and hours. • Months to set the offset date to the system date plus the specified number of months. |
## Adding balance types to a voucher type

Follow these steps to add a balance type to the current voucher type.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing Balance Policy</td>
<td>What to do, if this balance type does not already exist in the wallet when the voucher is redeemed. Select one of:</td>
</tr>
<tr>
<td></td>
<td>- <strong>Allow</strong> - the system will create the balance type and redeem the voucher.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Fail</strong> - the voucher redemption will fail.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Ignore</strong> - the voucher is redeemed, but the system will not create the balance type.</td>
</tr>
<tr>
<td>Expiry Policy</td>
<td>How to apply the expiry period for this balance type when vouchers of this type are redeemed. Select:</td>
</tr>
<tr>
<td></td>
<td>- <strong>Ignore</strong> - no change is made to the current expiry period.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Extend</strong> - the current expiry period is extended by the specified days and hours.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Extend From Today</strong> - the current expiry period to be extended the specified number of days and hours from today's date.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Best</strong> - The system will select the best policy option for the subscriber depending on their particular circumstances.</td>
</tr>
<tr>
<td>Scenario</td>
<td>The scenario which will apply this balance.</td>
</tr>
<tr>
<td></td>
<td><strong>Notes:</strong></td>
</tr>
<tr>
<td></td>
<td>- This field will only be visible in the screen if the scenarios functionality has been activated. For more information on activating scenarios see <em>CCS Technical Guide</em>.</td>
</tr>
<tr>
<td></td>
<td>- Only required if more than one scenario has been defined for this voucher type.</td>
</tr>
<tr>
<td></td>
<td>- The scenario value 'Default(All)' indicates that the balance type applies to all scenarios. If scenarios have been defined, you cannot use the default scenario.</td>
</tr>
<tr>
<td></td>
<td>- If only one scenario has been defined, you do not have to specify a scenario.</td>
</tr>
<tr>
<td>New Bucket</td>
<td>Whether to create a new bucket for the balance type when the voucher is redeemed.</td>
</tr>
<tr>
<td>Replace Balance</td>
<td>Whether to replace the existing balance for the balance type with the new value when the voucher is redeemed.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> You can only set the replace balance option providing there are no overlapping voucher balances for the same balance type with this option set.</td>
</tr>
<tr>
<td>Allowed Product Types</td>
<td>The product types which vouchers of this type can recharge for this balance type.</td>
</tr>
<tr>
<td></td>
<td><strong>Tip:</strong> An empty <em>Allocated</em> list means that the balance type can be recharged for all product types.</td>
</tr>
</tbody>
</table>
Note: To add multiple balance types to the voucher type, repeat this process as required.

**Step** | **Action**
---|---
1 | In the Multi-Balances area at the bottom of the New or the Edit Voucher Type screen, click **New**.<br>Result: You see the New Multi-Balance screen.

2 | Start to configure this record by entering data in the fields in the top of this screen. For more information about the fields on this screen, see *Balance type fields* (on page 20).

3 | In the **Allowed Product Types** section select the Product Types for which the voucher can recharge this balance type. To:
### Step 1
Allocate a product type, select it in the Available list and click the ‘>>’ button.

- Remove an allocated product type, select it in the Allocated list and click the ‘<<’ button.

**Tip:** An empty Allocated list means that the balance type can be recharged for all product types.

### Step 4
Click **Save**.

**Result:** The balance type details are saved, and you return to the Voucher Type screen.

## Editing balance types for a voucher type

Follow these steps to edit an existing balance type for the current voucher type.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the New or Edit Voucher Type screen, select the balance type record to edit from the Multi-Balances table.</td>
</tr>
<tr>
<td>Step</td>
<td>Action</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| 2    | Click **Edit**.  
**Result:** You see the Edit Multi-Balance screen. |

![Edit Multi-Balance screen](image)

3 Edit the fields to reflect the changes you need to make.  
For more information about the fields in this screen, see *Balance type fields* (on page 20).
Chapter 2

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 4    | If required, in the **Allowed Product Types** section select the Product Types for which the voucher can recharge this balance type. To:  
  • Allocate a product type, select it in the **Available** list and click the '>>' button  
  • Remove an allocated product type, select it in the **Allocated** list and click the '<<' button.  
  **Tip:** An empty **Allocated** list means that the balance type can be recharged for all product types. |
| 5    | Click **Save**.  
  **Result:** The modified balance type record is saved, and you return to the Voucher Type screen. |

### Deleting balance types for a voucher type

Follow these steps to delete an existing balance type from a voucher type.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the New or the Edit Voucher Type screen, select the balance type record to delete from the <strong>Multi-Balances</strong> table.</td>
</tr>
</tbody>
</table>
| 2    | Click **Delete**.  
  **Result:** You see the Delete Multi-Balance prompt. |
| 3    | Click **Apply** to delete the record from the database. |

### Voucher Batches

#### Introduction

The **Voucher Batches** tab lets you search, display, create and delete batches of vouchers for the selected customer.

There is one screen available for creating a new voucher batch:

• New Voucher Batch creates a simple batch file, eliminating the need to generate the batch via the command line.

**Tip:** Configuration for the voucher tool used to create voucher batches is defined in **eserv.config**. For more information about **eserv.config**, see **CCS Technical Guide**.
**Voucher Batches tab**

Here is an example **Voucher Batches** tab.
# Voucher Batch fields

This table describes the function of each field on the Voucher Batches tab.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Batch Code             | The identifier which will be used to group the vouchers in this batch. This field can be used to group vouchers from several batches.  
  *Note:* This field is not available:  
  - On the Edit Voucher Batch screen, and cannot be changed after the batch is generated  
  - If the authentication method is Des or CB10HRN |
| Batch Id               | The batch ID for the voucher batch.  
  This field is automatically populated when the vouchers are first generated. It cannot be changed and is only visible on the Voucher Batches tab. |
| Domain                 | The domain to create the voucher batch on.  
  This field is only available on the New Voucher Batch screen. |
| Batch Name             | The unique name for the batch. It can be up to 50 characters long and is optional.  
  *Note:* This field is not available if the authentication method is Alt or Des. |
| Activation Date        | Activation date of the voucher batch.  
  This field cannot be changed after the batch is activated.  
  *Note:* This field is not available on the New Voucher Batch screen. |
| Voucher Type           | The type of the vouchers in this batch.  
  This field is populated by the Voucher Types tab. For more information, see Voucher Type (on page 10).  
  This field cannot be changed after the batch is generated. |
| State Voucher Batch Status | Displays the state of the voucher batch. Available states are:  
  - Active  
  - Created  
  - Unavailable  
  *Note:* This is different to the state of the individual vouchers within the batch.  
  These fields are not available on the New Voucher Batch screen. |
| Description            | Reason for the voucher state change. |
| Initial Voucher State  | The state new vouchers in a batch will be in when they are first generated.  
  *Note:* This is different to the state of the voucher batch (which is automatically set to Created when the batch is first generated).  
  This field is only available in the New Voucher Batch screen. |
| Voucher Number Length  | The number of digits in the voucher number. This is set by the authentication rule for this voucher batch and cannot be changed after the batch is generated.  
  This field is only displayed on the New Voucher Batch screen. |
<p>| Start Voucher Number   | Displays the number of the first voucher in the batch and the starting point for the voucher number range. |</p>
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Note:** The length of the voucher number must match the voucher number length defined for the authentication rule being used. If the AltAuthMod authentication rule is being used, this will be 14 characters long. | A voucher number range can be used more than once for:  
  - DES encrypted vouchers with GPG selected  
  - CB10 HRN encrypted vouchers with or without GPG selected  
  Voucher are generated from unused voucher numbers from the range.  
  This field cannot be changed after the batch is generated. |
| End Voucher Number    | Displays the number of the last voucher in the batch and the ending point for the number range. The value must be greater than the start of range value and have a matching number of digits.  
  **Note:** This field cannot be changed after the batch is generated. |
| Start Serial Number   | Displays the serial number of the first voucher in the batch.  
  **Note:** This field is automatically populated and cannot be changed after the batch is generated. It is not available on the New Voucher Batch screen. |
| End Serial Number     | Displays the serial number of the last voucher in the batch.  
  **Note:** This field is automatically populated and cannot be changed after the batch is generated. It is not available on the New Voucher Batch screen. |
| Batch Size            | The number of vouchers in this batch. This can be equal to or less than the difference between the start voucher number and the end voucher number.  
  **Note:** This field cannot be changed after the batch is generated. |
| Original Count        |                                                                                                                                                                                                          |
| Authentication Rule   | Indicates which encryption scheme the voucher batch has been created with.  
  This field cannot be changed after the batch is generated.  
  This list is populated by records from the Security tab in the Service Management screen. For more information about the Security tab, see CCS User's Guide. |
| GPG Public Key        | The GPG Public key to use to encrypt the voucher batch export file. The key must have been imported and verified on the SMS. If you do not want to use a GPG Public key, select the blank entry.  
  **Note:** This field is only available for voucher batch files generated using an authentication rule based on DES PIN encryption or CB10 HRN encryption.  
  This field is only available on the New Voucher Batch screen.  
  For more information about GPG public keys, see GPG Public Keys (on page 43). |
| Pause Time            | The time in seconds to pause after loading each 100 vouchers for writing to the export file.  
  This field is only available on the New Voucher Batch screen. |
| CDR Description       | Description to use for this voucher batch in any EDRs that are created for...
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Filename</td>
<td>The name of the voucher batch export file to write the details of the generated vouchers to.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> This field is only available on the New Voucher Batch screen.</td>
</tr>
</tbody>
</table>

**Finding voucher batches**

Follow these steps to search for an existing voucher batch.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, choose the <strong>Service Provider</strong> from the drop down list.</td>
</tr>
</tbody>
</table>
| 2    | On the **Voucher Batches** tab, enter the search strings you are using to find the required batch. Perform one of the following:  
  - Enter the first few characters of the specified batch code in the **Code** field and click **Search**  
  - Select the Voucher Batch state from the **State** drop down box and click **Search**  
  **Note:** There are three states:  
  - Active  
  - Created  
  - Unavailable  
|      | **Result:** The **Voucher Batches** table will display the first 100 records matching the search criteria. |
| 3    | If the required voucher batch is not displayed and more than 100 records were returned, enter a longer search string and click **Search** again. |

**Adding voucher batches**

Follow these steps to add a new voucher batch.

**Note:** The values for the voucher number length and voucher PIN length are determined by the authentication rule selected and cannot be edited. The **GPG Public Key Description** field is for information only.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
</tbody>
</table>
| 2    | From the **Voucher Batches** tab, click **New**.  
  **Result:** You see the New Voucher Batch screen. |
3 Enter data in the fields to configure this record. For more information about the fields on this screen, see Voucher Batch fields (on page 28).

4 Click Save.

Result: The batch generation process is started and you see the Voucher Batch Generation prompt.

5 Click OK.

Result: You see the Voucher Batch Progress bar. The COMPLETE message is displayed in the bar once the batch has been successfully created.

6 Click 'x' to close the progress bar.
Checking voucher batch status

Follow these steps to check the status of an existing voucher batch.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Read the ccsSmsORB output log. For more information about the ccsSmsORB, see CCS Technical Guide.</td>
</tr>
<tr>
<td>2</td>
<td>Check for any error messages from the actual voucher-creation process.</td>
</tr>
<tr>
<td>3</td>
<td>Go to the /IN/service_packages/CCS/voucher/export/ directory.</td>
</tr>
</tbody>
</table>
| 4    | Check that the following file exists: `remote_filename.lst.print`  
Where:  
`remote_filename` is the name entered in the Remote Filename field of the New Voucher Batch screen.  
5 | If the file exists, is larger than 0 bytes in size and contains full records, the voucher batch job has been created successfully.  
If the file does not exist, is 0 bytes in size or only contains headers, the voucher batch job has failed. You will need to repeat the procedure in Adding voucher batches (on page 30). |

Editing voucher batches

Follow these steps to edit an existing Voucher Batch.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the Service Provider from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>On the Voucher Batches tab enter the search criteria for the required voucher batch in the search fields and click Search. For details on finding voucher batches, see Finding voucher batches (on page 30).</td>
</tr>
</tbody>
</table>
| 3    | In the table on the tab, select the record you want to edit and click Edit.  
Result: You see the Edit Voucher Batch screen. |
Chapter 2

### Voucher Management

#### Step 4
Edit the fields with the changes to make.
The only fields you can change are:

- **CDR Description**
- **Voucher Batch Status**.

**Tip:** For descriptions of voucher batches fields, see *Voucher Batch fields* (on page 28).

#### Step 5
Click **Save**.

### Deleting voucher batches

Follow these steps to delete an existing voucher batch.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>On the <strong>Voucher Batches</strong> tab enter the search criteria for the voucher batch to delete and click <strong>Search</strong>. For more information on finding voucher batches, see <em>Finding voucher batches</em> (on page 30).</td>
</tr>
<tr>
<td>3</td>
<td>In the table on the tab, select the record to delete.</td>
</tr>
<tr>
<td>4</td>
<td>Click <strong>Delete</strong>.</td>
</tr>
<tr>
<td>Step</td>
<td>Action</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td>Result: You see the Delete Confirmation prompt.</td>
</tr>
<tr>
<td>5</td>
<td>Click <strong>OK</strong>.</td>
</tr>
</tbody>
</table>

**Vouchers**

**Introduction**

The **Vouchers** tab allows you to select a voucher owned by the selected service provider and set it to an active or frozen state.

If you set a voucher from an 'active' voucher batch to 'frozen', then the voucher can no longer be redeemed. If a voucher batch is in a 'created' or 'unavailable' state, then although you will be able to set a voucher within the batch to an 'active' state in this screen, you will not be able to redeem it. You may only redeem an active voucher if the voucher batch it belongs to is also in an 'Active' state.

**Note:** If scenarios have been installed and activated on your system, then the **Scenario** field will be visible in the **Vouchers** tab. Otherwise this field will not be visible. For more information on installing and activating scenarios, see *CCS Technical Guide*. 
Vouchers tab

Here is an example Vouchers tab.

Changing voucher states

Follow these steps to change the state of an existing Voucher.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the Service Provider from the drop down box.</td>
</tr>
</tbody>
</table>
| 2    | In the Vouchers tab, enter one of the following:  
|      | • Voucher number or HRN in the Voucher Number field  
|      | • Voucher serial number in the Serial Number field  
|      | Click Search. |
Step | Action
--- | ---
Tip: When searching on the voucher number, the number entered must be the length of the voucher number as defined for the authentication rule for this voucher.
Result: The fields on the tab will display the details for the voucher searched for.
3 From the **Voucher Status** drop down box, select the status the voucher should have.
- Available statuses are:
  - **Active**
  - **Created**
  - **Frozen**
  - **Deleted**

**Note:** If you want to be able to redeem the voucher, set its status to **Active**.

If the voucher has been redeemed already:
- This field is grayed out (indicating the value cannot be changed)
Voucher Validation

Introduction

Use the Voucher Validation tab to test whether a given voucher signature (the voucher number and secret digits) is valid.

Note: You will only have access to this facility if you have sufficient user privileges.
**Voucher Validation tab**

Here is an example **Voucher Validation** tab.

![Voucher Manager Screen](image)

**Validating a voucher**

Follow these steps to validate a voucher.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
</tbody>
</table>
| 2    | In the **Voucher Signature** field in the **Voucher Validation** tab, enter the voucher number or HRN. Do not include any spaces.  

**Tip:** The voucher number to use for searching must be the length of the voucher number as defined for the authentication rule for this voucher.
Chapter 2

Voucher Management

Step | Action
---|---
3   | Click **Validate**.

Result: The Voucher Status field shows the validity of the voucher.

**Voucher validation results**

This table lists the possible messages displayed when you validate a Voucher.

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Voucher to Check</td>
<td>You clicked <strong>Validate</strong> before entering the voucher signature.</td>
</tr>
<tr>
<td>Voucher Is Valid</td>
<td>The signature has been confirmed by the SMS.</td>
</tr>
<tr>
<td>Voucher Is Not Valid</td>
<td>The signature was not recognized by the SMS.</td>
</tr>
</tbody>
</table>

**Voucher Recharge**

**Introduction**

The **Voucher Recharge** tab allows you to recharge a voucher owned by the selected service provider.
Chapter 2

Voucher Recharge tab

Here is an example Voucher Recharge tab.

Recharging vouchers

Follow these steps to recharge an existing voucher.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the Service Provider from the drop down box.</td>
</tr>
</tbody>
</table>
### Chapter 2

#### Voucher Management

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>In the <strong>Voucher Signature</strong> field on the <strong>Voucher Recharge</strong> tab, enter the signature of the voucher you want to recharge.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The voucher signature is the voucher number and (depending on the encryption algorithm selected for the voucher batch) the PIN, or the HRN. If the encryption algorithm is ‘DES’ then the voucher PIN must be appended to the voucher number, otherwise the voucher PIN will not be appended to the end of the voucher number.</td>
</tr>
<tr>
<td></td>
<td>For more information about encryption algorithms, see <em>CCS Technical Guide</em>.</td>
</tr>
<tr>
<td>3</td>
<td>In the <strong>Subscriber ID</strong> field, enter the ID for the subscriber.</td>
</tr>
<tr>
<td>4</td>
<td>In the <strong>Description</strong> field, enter a reason for the recharge, if required.</td>
</tr>
<tr>
<td>5</td>
<td>If a scenario is required, click <strong>Refresh</strong>.</td>
</tr>
<tr>
<td></td>
<td><strong>Result:</strong> The <strong>Scenario</strong> drop down list will be populated with all valid scenarios for the voucher specified in the Voucher Signature field.</td>
</tr>
<tr>
<td>6</td>
<td>From the <strong>Scenario</strong> drop down list, select the scenario to use with this redemption.</td>
</tr>
<tr>
<td>7</td>
<td>From the <strong>Primary</strong> and <strong>Secondary</strong> option buttons, select the wallet type for the Voucher Recharge.</td>
</tr>
<tr>
<td>8</td>
<td>Click <strong>Recharge</strong>.</td>
</tr>
<tr>
<td></td>
<td><strong>Result:</strong> The system will attempt to recharge the subscriber with the voucher. If it is successful, the Success prompt will appear.</td>
</tr>
<tr>
<td>9</td>
<td>Click <strong>OK</strong>.</td>
</tr>
</tbody>
</table>

#### Voucher Ranges

**Introduction**

The **Voucher Ranges** tab enables you to change the state of a group of vouchers. The vouchers are a defined range of voucher numbers.
Voucher Ranges tab

Here is an example Voucher Ranges tab.

Activating voucher ranges

Follow these steps to change the state of a range of vouchers.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the Service Provider from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>On the Voucher Ranges tab, from the Voucher Batch drop down list, select the voucher batch which contains the range to change.</td>
</tr>
</tbody>
</table>

**Note:** The voucher batch corresponds with the Batch ID field in the Voucher Batches screen.
<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| 3    | From the **Voucher State** drop down list, select the new state the vouchers in the range should be.  
**Note:** If you want to be able to redeem the vouchers you must set the voucher state to active. |
| 4    | In the **Start Serial No** field, enter the lowest voucher serial number in the voucher range you want to change. |
| 5    | In the **End Serial No** field, enter the highest voucher serial number in the voucher range you want to change.  
**Note:** The range must be 100,000 vouchers or less. |
| 6    | In the **Description** field, enter a description for the voucher range, if required. |
| 7    | Click **Change**.  
**Result:** The Confirm Voucher Change Operation prompt will appear. |
| 8    | Click **OK**.  
**Result:** The Voucher Change State prompt will appear. |
| 9    | Click **OK**. |

### GPG Public Keys

#### Introduction

The **GPG Public Keys** tab allows you to:
- Import new GPG public keys into CCS
- Verify imported keys

GPG keys are used to increase security when creating voucher batch export files for printing.

Once a public key has been verified it can be used as part of the security mechanism for creating voucher batches.

**Note:** You cannot remove public keys from the SMF database or from the GPG key-ring store on the SMS.
Public Keys tab

Here is an example GPG Public Keys tab.

![GPG Public Keys tab]

**Importing GPG public keys**

Follow these steps to import new GPG public keys from a specified file.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>Select the <strong>GPG Public Keys</strong> tab.</td>
</tr>
<tr>
<td>3</td>
<td>In the <strong>Import File</strong> field, enter the path and filename of the file containing the new GPG public keys or click <strong>Browse</strong> to select the file.</td>
</tr>
<tr>
<td>4</td>
<td>Click <strong>Import Keys</strong>.</td>
</tr>
</tbody>
</table>
Step | Action
--- | ---
| **Note:** This button becomes enabled once the import file has been specified. |  
**Result:** Any keys not currently in the system are imported from the file and you see the GPG Key Importation prompt.

5 | Click OK.
**Result:** The **GPG Public Keys** tab is refreshed to include the new keys.

### Verifying public keys

Follow these steps to verify a GPG public key.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
</tbody>
</table>
| 2 | In the table on the **GPG Public Keys** tab, select the GPG Key to verify.  
**Tip:** If the value in the **Verified** column for this key is ‘Y’, then it has already been verified. |
| 3 | Click **Verify Key**.  
**Result:** You see the GPG Key Importation validation prompt. |
| 4 | Click **OK**. |

### Deleting GPG public keys

Follow these steps to delete GPG public keys.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager screen, select the <strong>Service Provider</strong> from the drop down box.</td>
</tr>
<tr>
<td>2</td>
<td>In the table on the <strong>GPG Public Public Keys</strong> tab, select the public key to delete.</td>
</tr>
</tbody>
</table>
| 3 | Click **Delete**.  
**Result:** The Confirmation prompt appears. |
| 4 | Click **OK** to confirm. |

### AVD Configuration

**Introduction**

The **AVD Configuration** tab allows you to:

- Update the common configuration that will be used on the SMS and across all VWS voucher domains by the automatic voucher delete process.
- View the date ranges for vouchers that are in the process of being deleted for each of the configured VWS domain nodes.

**Notes:**

- Automatic voucher deletion (AVD) is performed on a regular basis by the ccsBeAvd binary processes. For information about ccsBeAvd, see *CCS Technical Guide*.  

---

Chapter 2, Voucher Management 45
You manage the configuration of ccsBeAvd from the AVD Configuration tab. This tab also lists the current tasks that the ccsBEAvd binary processes are required to perform. However, it does not show the progress of the deletion of the redeemed vouchers from the VWS domain nodes.

AVD Configuration tab

Here is an example AVD Configuration tab.

![AVD Configuration tab example](image)

AVD Configuration fields

This table describes the configuration fields in the AVD Configuration tab.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep Redeemed Vouchers For</td>
<td>Sets the number of weeks for which redeemed voucher records will be kept on the SMS and VWS nodes. Must be between 1 and 26 weeks.</td>
</tr>
</tbody>
</table>
**Max Records to Process**

Sets the maximum number of voucher records to delete per run of the automatic deletion process (ccsBeAvd) on the VWS. Must be between 1 and 999999.

*Note:* The frequency and times that the ccsBeAvd process is run on each VWS node is controlled by the crontab for the ccs_oper user. For more information, see [NCC Charging Control Services Technical Guide](#).

**Commit After Num Rows**

Sets the number of redeemed voucher records for ccsBeAvd to delete on the VWS node before committing the changes to the database. You must specify a value between 1 and 9999. If the value you specify is

- Less than the value for **Batch Size**, then ccsBeAvd commits the changes after deleting the number of vouchers defined by **Batch Size**.
- More than the value for **Batch Size**, then ccsBeAvd continues to delete batches of voucher records until the value of **Commit After Num Rows** is exceeded. Then it commits the changes to the database.

*Note:* It is not possible to roll back changes once they have been committed.

**Batch Size**

Sets the maximum number of redeemed voucher records to delete in a single batch. You must specify a value between 1 and 999999.

**Sleep Time**

Sets the amount of time (in seconds) for ccsBeAvd to wait after the number of vouchers defined by **Batch Size** are deleted. You must specify a value between 1 and 999999 seconds.

*Note:* This allows the system processing time for other jobs.

### Node Status fields

The **Node Status** table on the **AVD Configuration** tab lists the deletion tasks currently under progress by the automatic deletion process on each VWS node. If there are no entries it means that currently there are no vouchers to delete on any VWS node.

This table describes the fields listed in the **Node Status** table.

*Note:* These fields are read-only and cannot be changed. The values in these fields are updated automatically by the automatic voucher deletion process.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain Name</td>
<td>The voucher domains that are currently undergoing automatic voucher deletion processing.</td>
</tr>
<tr>
<td>Node Name</td>
<td>The defined domain nodes from which voucher records are in the process of being deleted.</td>
</tr>
<tr>
<td>Redeem Start Date</td>
<td>The start date of the date range for which redeemed vouchers are in the process of being deleted.</td>
</tr>
</tbody>
</table>
### Changing AVD configuration

Follow these steps to change AVD configuration.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the Voucher Manager window, click on the AVD Configuration tab. <strong>Result:</strong> You see the current AVD configuration details. See AVD Configuration tab (on page 46).</td>
</tr>
<tr>
<td>2</td>
<td>Edit the fields to reflect the changes you need to make. For more information about the fields on this tab, see Node Configuration fields (see “AVD Configuration fields” on page 46).</td>
</tr>
<tr>
<td>3</td>
<td>Click <strong>Save</strong>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redeem End Date</td>
<td>The end date of the date range for which redeemed vouchers are in the process of being deleted.</td>
</tr>
</tbody>
</table>
NCC Glossary of Terms

**ACS**
Advanced Control Services configuration platform.

**CCS**
1) Charging Control Services (or Prepaid Charging) component.
2) Common Channel Signalling. A signalling system used in telephone networks that separates signalling information from user data.

**CDR**
Call Data Record

*Note:* The industry standard for CDR is EDR (Event Detail Record). Over time EDR will replace CDR in the Oracle documentation.

**CPE**
Control Plan Editor (previously Call Plan Editor) - software used to define the logic and data associated with a call – for example, "if the subscriber calls 0800 nnnnnn from a phone at location xxx then put the call through to bb bbb bbbb".

**cron**
Unix utility for scheduling tasks.

**crontab**
File used by cron.

**DTMF**
Dual Tone Multi-Frequency - system used by touch tone telephones where one high and one low frequency, or tone, is assigned to each touch tone button on the phone.

**EDR**
Event Detail Record

*Note:* Previously CDR. The industry standard for CDR is EDR (Event Detail Record). Over time EDR will replace CDR in the NCC documentation.

**HRN**
Hidden Reload Number

**HTML**
HyperText Markup Language, a small application of SGML used on the World Wide Web.
It defines a very simple class of report-style documents, with section headings, paragraphs, lists, tables, and illustrations, with a few informational and presentational items, and some hypertext and multimedia.
IVR

Interactive Voice Response - systems that provide information in the form of recorded messages over telephone lines in response to user input in the form of spoken words or, more commonly, DTMF signalling.

Oracle

Oracle Corporation

PIN

Personal Identification Number

Service Provider

See Telco.

SGML


SMS

Depending on context, can be:

- Short Message Service
- Service Management System platform
- NCC Service Management System application

Telco

Telecommunications Provider. This is the company that provides the telephone service to customers.

Telecommunications Provider

See Telco.

VWS

Oracle Voucher and Wallet Server (formerly UBE).
Index

A
About This Document • v
Accessing the Voucher Manager screen • 7
ACS • 49
Activating voucher ranges • 42
Adding balance types to a voucher type • 23
Adding limited product types • 15, 16, 18
Adding product swap rules • 15, 17, 18
Adding scenarios to a voucher type • 15, 19, 20
Adding voucher batches • 31, 32
Adding voucher types • 14
Audience • v
Automatic voucher deletion • 3
AVD Configuration • 3, 7, 45
AVD Configuration fields • 47, 48
AVD Configuration tab • 46, 48

B
Balance type fields • 14, 20, 23, 25

C
CB-10 voucher security • 4
CCS • 49
CCS component • 1
CDR • 49
Changing AVD configuration • 48
Changing voucher states • 35
Checking voucher batch status • 32
Copyright • ii
CPE • 49
cron • 49
crontab • 49

D
Deleting balance types for a voucher type • 26
Deleting GPG public keys • 45
Deleting scenarios for a voucher type • 20
Deleting voucher batches • 33
Deleting voucher types • 19
Document Conventions • vi
DSMF • 49

E
Editing balance types for a voucher type • 24
Editing limited product types • 16, 18
Editing product swap rules • 17, 18
Editing scenarios for a voucher type • 20
Editing voucher batches • 32
Editing voucher types • 18
EDR • 49
Examples of scenarios • 4

F
Finding voucher batches • 30, 32, 33

G
Generating GPG keys • 4
GPG Public Keys • 7, 30, 43

H
HRN • 49
HTML • 49

I
Importing GPG public keys • 44
Introduction • 1, 4, 7, 10, 26, 34, 37, 39, 41, 43,
45
IVR • 50

L
Limited Product Type • 11

M
Multiple balance type • 11

N
Node Status fields • 47

O
Oracle • 50
Overview • 1, 7

P
PIN • 50
Power charge scenarios • 12
Power Charge Scenarios • 4
Prerequisites • v
Product Swap • 11
Public Keys tab • 44

R
Recharging vouchers • 40
Redeeming vouchers • 3, 11
Redemption notifications • 5
Redemption rules • 4
Related documents • v
Reported voucher state • 3

S
Scope • v
Security • 4
Service Provider • 50
SGML • 50
SMS • 50
System Overview • 1