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About This Document

Scope
The scope of this document is confined to samples of message flows to help explain the effects of configuration choices.

Audience
This guide is written primarily for system administrators of NCC products.

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

Related documents
The following documents are related to this document:
- *CCS User's 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>Special Bold</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>Italics</td>
<td>Name of a document, chapter, topic or other publication.</td>
</tr>
<tr>
<td></td>
<td>Emphasis within text.</td>
</tr>
<tr>
<td>Button</td>
<td>The name of a button to click or a key to press.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> To close the window, either click Close, or press Esc.</td>
</tr>
<tr>
<td>Key+Key</td>
<td>Key combinations for which the user must press and hold down one key and then press another.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> Ctrl+P, or Alt+F4.</td>
</tr>
<tr>
<td>Monospace</td>
<td>Examples of code or standard output.</td>
</tr>
<tr>
<td>Monospace Bold</td>
<td>Text that you must enter.</td>
</tr>
<tr>
<td>variable</td>
<td>Used to indicate variables or text that should be replaced.</td>
</tr>
<tr>
<td>menu option &gt; menu option &gt;</td>
<td>Used to indicate the cascading menu option to be selected, or the location path of a file.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> Operator Functions &gt; Report Functions</td>
</tr>
<tr>
<td></td>
<td>Example: /IN/html/SMS/Helptext/</td>
</tr>
<tr>
<td>hypertext link</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 lists a sample of CCS message flows, each topic pertains to a specific part of CCS.

In this chapter

This chapter contains the following topics.
Data Session Charging Behaviour

Data Session Charging Behaviour

Timeout with update reservation revoked

This example shows the flow when a timeout occurs mid-session and reservation is revoked.

Parameters
This message flow assumes the following configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Screen/Panel</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge on Reservation Timeout</td>
<td>CLI-DN</td>
<td>(unchecked)</td>
</tr>
<tr>
<td>Hold Reservation Open</td>
<td>Reservation Config</td>
<td>300</td>
</tr>
</tbody>
</table>
Message flow
When a timeout occurs mid-session, all outstanding reservations are revoked and the UBE session is closed.

Timeout with update reservation confirmed
This example shows the flow when a timeout occurs mid-session and reservation is confirmed.

Parameters
This message flow assumes the following configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Screen/Panel</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge on Reservation Timeout</td>
<td>CLI-DN</td>
<td>(checked)</td>
</tr>
<tr>
<td>Hold Reservation Open</td>
<td>Reservation Config</td>
<td>300</td>
</tr>
</tbody>
</table>
**Message flow**

When a timeout occurs mid-session, all used units are charged and the UBE session is closed.

**Note:** The UBE only confirms the used units value based on the received update reservation request. It does not commit the full 400s of granted time. This means that in the case of timeout on an initial reservation, the subscriber will not be charged regardless of the Charge on Reservation Timeout configuration.

**Requested Reservation Chunk not set**

This example shows the flow when the Requested Reservation Chunk is not set.

The requested reservation chunk ensures that the reservation returned from the UBE is always rounded to the full size. If it is not set and a subsequent reservation request is received that uses less than the granted reservation size, only the delta will be returned.

**Parameters**

This message flow assumes the following configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Screen/Panel</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requested Reservation Chunk</td>
<td>Reservation Config</td>
<td>(empty)</td>
</tr>
<tr>
<td>Hold Reservation Open</td>
<td>Reservation Config</td>
<td>300</td>
</tr>
<tr>
<td>Commit Volume Threshold</td>
<td>Reservation Config</td>
<td>(disabled)</td>
</tr>
</tbody>
</table>
Requested Reservation Chunk set

This example shows the flow when the Requested Reservation Chunk is set.

The requested reservation chunk ensures that the reservation returned from the UBE is always rounded to the full size. If it is set and a subsequent reservation request is received that uses less than the granted reservation size, the UBE will reserve the amount used in order to grant a full sized reservation in response.

Parameters
This message flow assumes the following configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Screen/Panel</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requested Reservation Chunk</td>
<td>Reservation Config</td>
<td>200</td>
</tr>
<tr>
<td>Hold Reservation Open</td>
<td>Reservation Config</td>
<td>300</td>
</tr>
<tr>
<td>Commit Volume Threshold</td>
<td>Reservation Config</td>
<td>(disabled)</td>
</tr>
</tbody>
</table>
Commit Volume Threshold set

This example shows the flow when the Commit Volume Threshold is set.

Parameters
This message flow assumes the following configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Screen/Panel</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requested Reservation Chunk</td>
<td>Reservation Config</td>
<td>(empty)</td>
</tr>
<tr>
<td>Hold Reservation Open</td>
<td>Reservation Config</td>
<td>300</td>
</tr>
<tr>
<td>Commit Volume Threshold</td>
<td>Reservation Config</td>
<td>50</td>
</tr>
</tbody>
</table>
Request Time Threshold Not Set

This example shows the flow when the request time threshold is not set.

Parameters

This message flow assumes the following configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Screen/Panel</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Time Threshold</td>
<td>Reservation Config</td>
<td>not set</td>
</tr>
<tr>
<td>Hold Reservation Open</td>
<td>Reservation Config</td>
<td>300</td>
</tr>
<tr>
<td>Charge on Timeout</td>
<td>Reservation Config</td>
<td>not set</td>
</tr>
</tbody>
</table>
Request Time Threshold Set

This example shows the flow when the request time threshold is set.

Parameters
This message flow assumes the following configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Screen/Panel</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Time Threshold</td>
<td>Reservation Config</td>
<td>1000 deci-seconds</td>
</tr>
<tr>
<td>Hold Reservation Open</td>
<td>Reservation Config</td>
<td>300</td>
</tr>
<tr>
<td>Charge on Timeout</td>
<td>Reservation Config</td>
<td>not set</td>
</tr>
</tbody>
</table>
Message flow

1. DCA sends CCA (Initial) to slee_acs.
2. slee_acs sends Initial Reservation Request to UBE.
3. UBE sends Initial Reservation Response (200s) to slee_acs.
4. slee_acs sends CCA (200s granted) to DCA.
5. 90s elapsed.
6. slee_acs sends CCR (Update - 10s used) to UBE.
7. UBE sends Initial Reservation Response (200s) to slee_acs.
8. slee_acs sends CCS (190s granted) to DCA.
9. 60s elapsed.
10. slee_acs sends CCR (Update - 20s used) to UBE.
11. UBE sends Update Reservation Request to slee_acs.
12. slee_acs sends CCS (180s granted) to DCA.
13. UBE sends Update Reservation Response (180s) to slee_acs.
14. slee_acs sends CCR (Termination - 200s used) to UBE.
15. UBE sends Confirm Reservation Request to slee_acs.
16. slee_acs sends Confirm Reservation Response (success) to DCA.
17. UBE returns remaining reservation.
18. 200s confirmed and reservation closed.

Chapter 1
NCC Glossary of Terms

ANI
Automatic Number Identification - Term used in the USA by long-distance carriers for CLI.

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.

CLI
Calling Line Identification - the telephone number of the caller. Also referred to as ANI.

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.

Oracle
Oracle Corporation

SGML
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