

Oracle® Communications Convergent Charging Controller Sample Message Flows Reference Guide



Release 15.1

April 2025

The Oracle logo, consisting of the word "ORACLE" in white, uppercase, sans-serif font, centered within a solid red square.

Copyright

Copyright © 2025, Oracle and/or its affiliates.

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, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or "commercial computer software documentation" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. 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 Inside 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, Epyc, and the AMD 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 about 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 unless otherwise set forth in an applicable agreement between you and Oracle. 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, except as set forth in an applicable agreement between you and Oracle.

Contents

About This Document v

Document Conventions vi

Chapter 1

CCS Message Flows 1

Overview 1

Data Session Charging Behavior 1

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 Convergent Charging Controller 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:

- *Charging Control Services User's Guide*

Document Conventions

Typographical Conventions

The following terms and typographical conventions are used in the Oracle Communications Convergent Charging Controller documentation.

Formatting Convention	Type of Information
Special Bold	Items you must select, such as names of tabs. Names of database tables and fields.
<i>Italics</i>	Name of a document, chapter, topic or other publication. Emphasis within text.
Button	The name of a button to click or a key to press. Example: To close the window, either click Close , or press Esc .
Key+Key	Key combinations for which the user must press and hold down one key and then press another. Example: Ctrl+P or Alt+F4 .
Monospace	Examples of code or standard output.
Monospace Bold	Text that you must enter.
<i>variable</i>	Used to indicate variables or text that should be replaced with an actual value.
menu option > menu option >	Used to indicate the cascading menu option to be selected. Example: Operator Functions > Report Functions
hypertext link	Used to indicate a hypertext link.

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

CCS Message Flows

Overview

Introduction

This chapter includes sample CCS message flows. Each topic pertains to a specific part of CCS.

In this Chapter

This chapter contains the following topics.

Data Session Charging Behavior 1

Data Session Charging Behavior

This section shows the following sample CCS message flows:

- *Timeout with Update Reservation Revoked "Timeout with Update Reservation Revoked"*
- *Timeout with Update Reservation Confirmed "Timeout with Update Reservation Confirmed"*
- *Requested Reservation Chunk Not Set "Requested Reservation Chunk Not Set"*
- *Requested Reservation Chunk Set "Requested Reservation Chunk Set"*
- *Commit Volume Threshold Set "Commit Volume Threshold Set"*
- *Request Time Threshold Not Set "Request Time Threshold Not Set"*
- *Request Time Threshold Set "Request Time Threshold Set"*

Timeout with Update Reservation Revoked

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

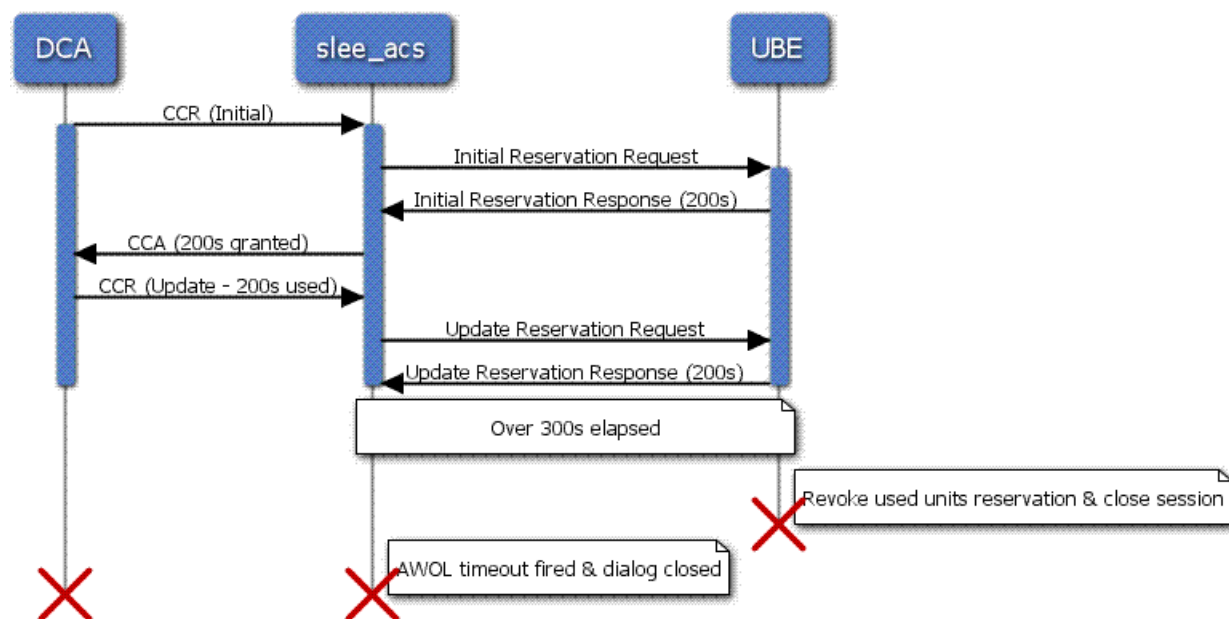
Parameters

This message flow assumes the following configuration:

Field	Screen/Panel	Value
Charge on Reservation Timeout	CLI-DN	(unchecked)
Hold Reservation Open	Reservation Config	300

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 a reservation is confirmed.

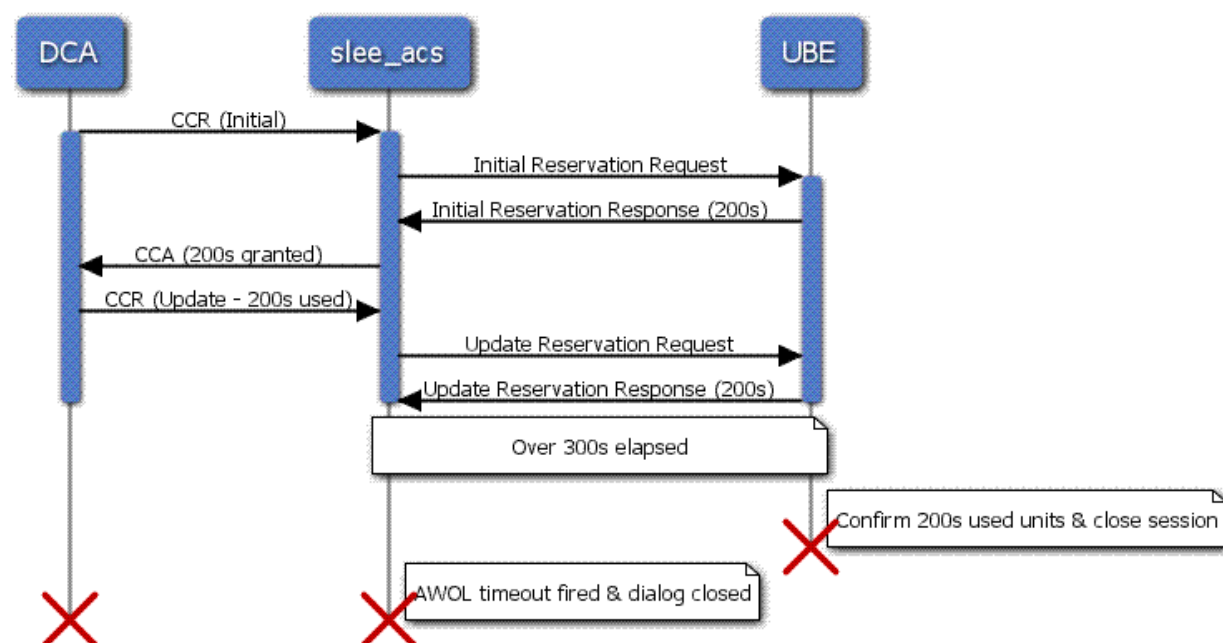
Parameters

This message flow assumes the following configuration:

Field	Screen/Panel	Value
Charge on Reservation Timeout	CLI-DN	(checked)
Hold Reservation Open	Reservation Config	300

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.

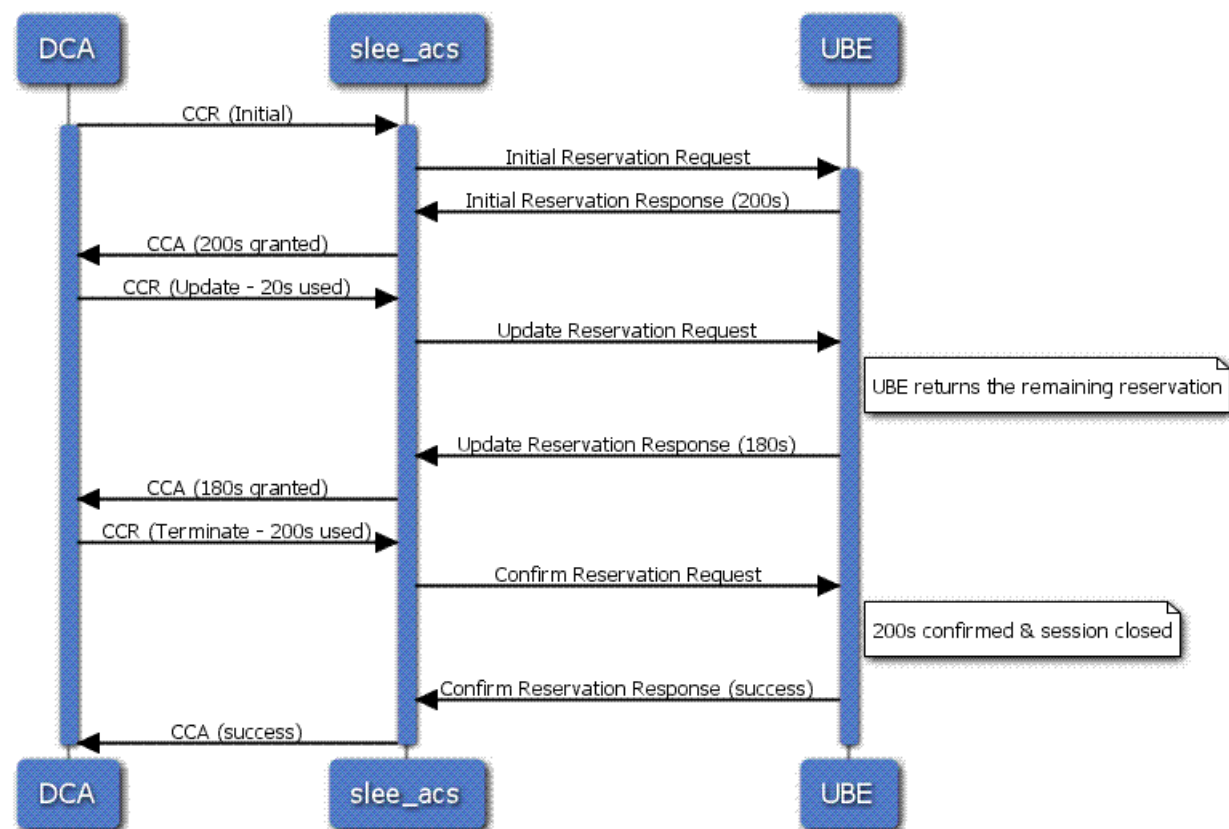
The requested reservation chunk ensures that the reservation returned from the UBE is always rounded to the full size. If it is not set and a subsequent reservation request is received that uses less than the granted reservation size, the UBE returns only the delta.

Parameters

This message flow assumes the following configuration:

Field	Screen/Panel	Value
Requested Reservation Chunk	Reservation Config	(empty)
Hold Reservation Open	Reservation Config	300
Commit Volume Threshold	Reservation Config	(disabled)

Message Flow



Requested Reservation Chunk Set

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

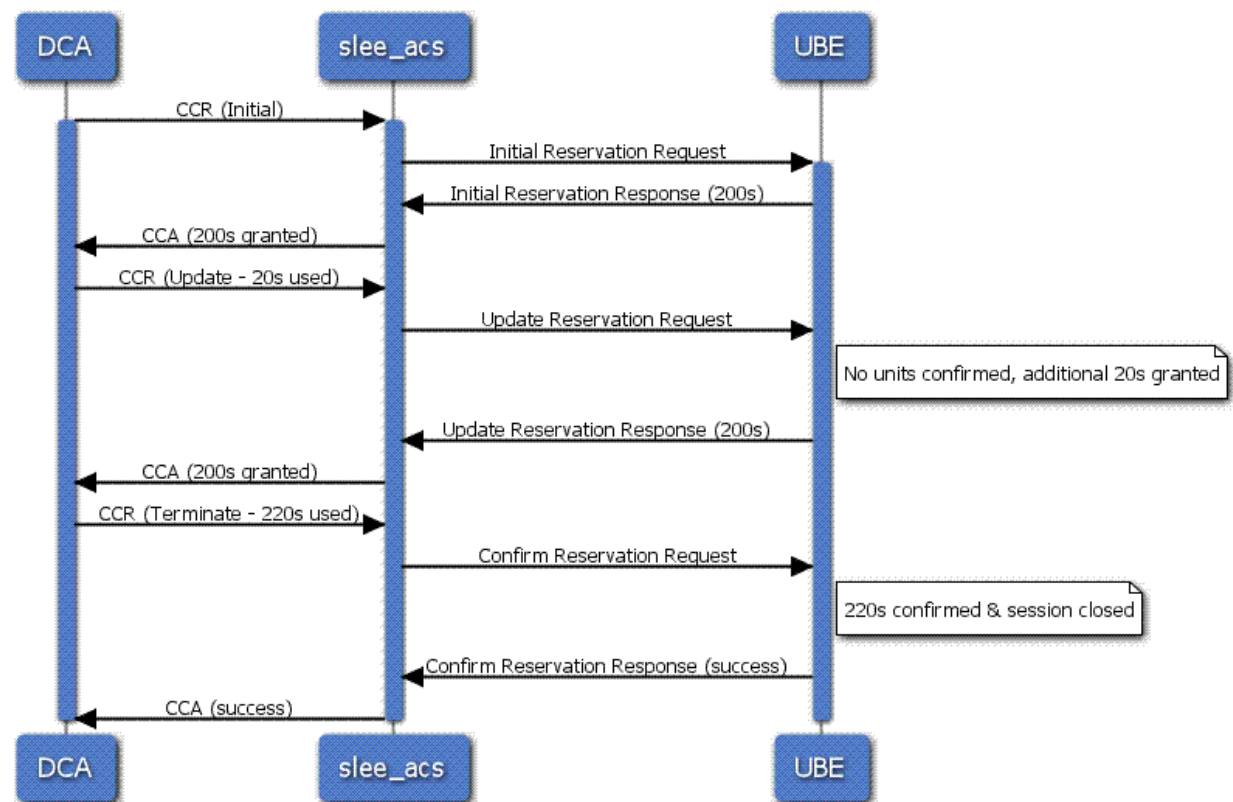
The requested reservation chunk ensures that the reservation returned from the UBE is always rounded to the full size. If it is set and a subsequent reservation request is received that uses less than the granted reservation size, the UBE reserves the amount used to grant a full-sized reservation in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

Parameters

This message flow assumes the following configuration:

Field	Screen/Panel	Value
Requested Reservation Chunk	Reservation Config	200
Hold Reservation Open	Reservation Config	300
Commit Volume Threshold	Reservation Config	(disabled)

Message Flow



Commit Volume Threshold Set

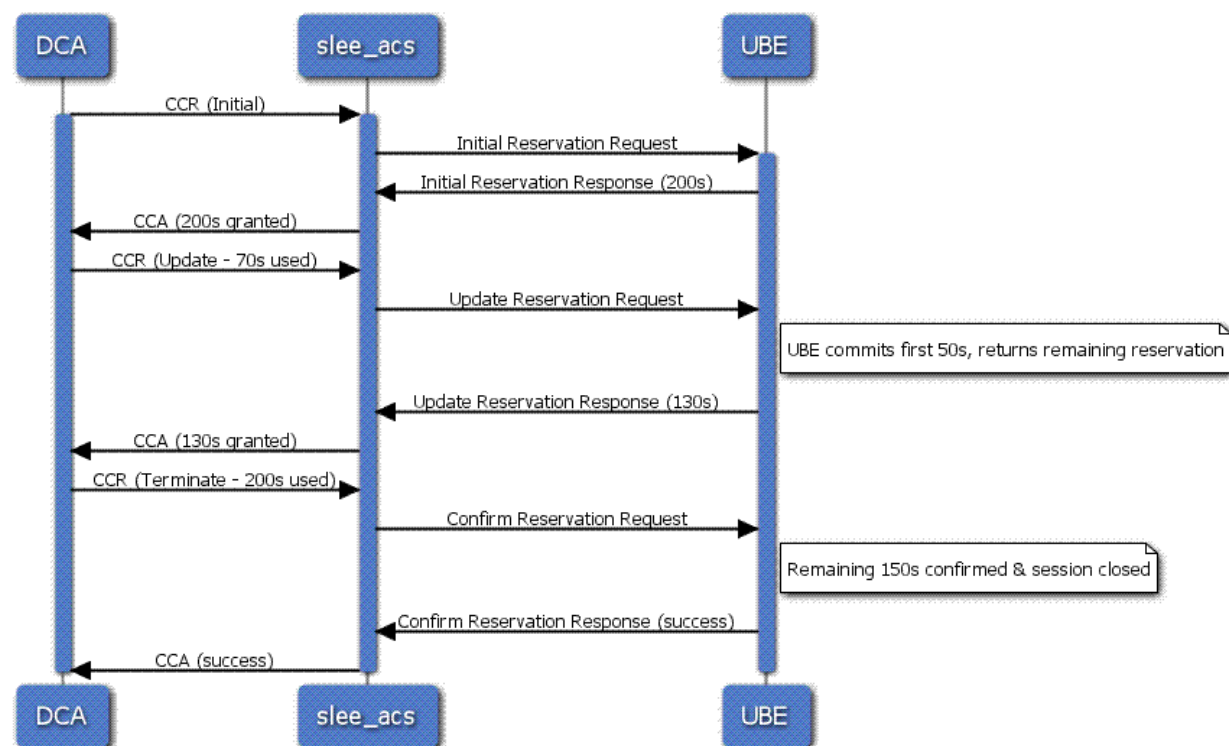
This example shows the flow when the Commit Volume Threshold is set.

Parameters

This message flow assumes the following configuration:

Field	Screen/Panel	Value
Requested Reservation Chunk	Reservation Config	(empty)
Hold Reservation Open	Reservation Config	300
Commit Volume Threshold	Reservation Config	50

Message Flow



Request Time Threshold Not Set

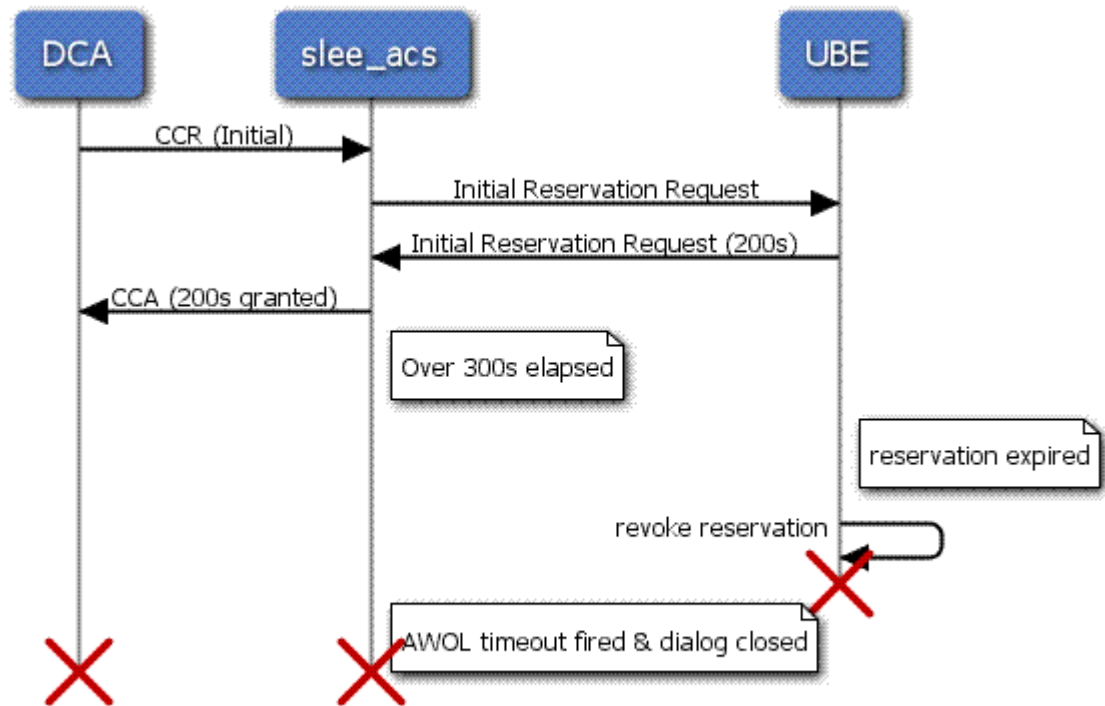
This example shows the flow when the request time threshold is not set.

Parameters

This message flow assumes the following configuration:

Field	Screen/Panel	Value
Request Time Threshold	Reservation Config	not set
Hold Reservation Open	Reservation Config	300
Charge on Timeout	Reservation Config	not set

Message Flow



Request Time Threshold Set

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

Parameters

This message flow assumes the following configuration:

Field	Screen/Panel	Value
Request Time Threshold	Reservation Config	1000 deci-seconds
Hold Reservation Open	Reservation Config	300
Charge on Timeout	Reservation Config	not set

Message Flow

