



## **Ultra Cloud Core Common Data Layer, Release 1.7 - Release Change Reference**

**First Published:** 2022-02-14

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# CHAPTER 1

## About this Guide



**Note** The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. While any existing biased terms are being substituted, exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

This RCR is applicable to the Common Data Layer (CDL). It provides information on new and modified features any behavior changes added for the applicable CDL release(s).

- [Conventions Used, on page 1](#)

## Conventions Used

The following tables describe the conventions used throughout this documentation.

Notice Type	Description
Information Note	Provides information about important features or instructions.
Caution	Alerts you of potential damage to a program, device, or system.
Warning	Alerts you of potential personal injury or fatality. May also alert you of potential electrical hazards.

Typeface Conventions	Description
Text represented as a screen display	This typeface represents displays that appear on your terminal screen, for example:  Login:

Typeface Conventions	Description
Text represented as commands	<p>This typeface represents commands that you enter, for example:</p> <pre>show ip access-list</pre> <p>This document always gives the full form of a command in lowercase letters. Commands are not case sensitive.</p>
Text represented as a command variable	<p>This typeface represents a variable that is part of a command, for example:</p> <pre>show card slot_number</pre> <p>slot_number is a variable representing the desired chassis slot number.</p>
Text represented as menu or sub-menu names	<p>This typeface represents menus and sub-menus that you access within a software application, for example:</p> <pre>Click the File menu, then click New</pre>



## CHAPTER 2

# UCC CDL, Release 1.7 - Release Change Reference

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- [FindAll and FindAllNotify Query Enhancements for CDL, on page 3](#)

## FindAll and FindAllNotify Query Enhancements for CDL

### Feature Summary and Revision History

#### Summary Data

Applicable Product (s) or Functional Area	Cloud Native Broadband Network Gateway (cnBNG) 2021.04.0 and later
Applicable Platforms	Bare Metal, OpenStack, VMware
Feature Default Setting	Enabled – Always-on <b>Note</b> By default, only the streaming notification functionality is disabled.
Related Changes in this Release	Not Applicable
Related Documentation	UCC CDL Configuration and Administration Guide

#### Revision History

Revision Details	Release
First introduced.	CDL 1.7.0

### Feature Description

In this release, the CDL supports enhancements for the FindAll and FindAllNotify queries.

New query filters are introduced to support the following operations:

- A maximum of 20 IN filters in the FindAllNotify query. The CDL retrieves all sessions from a slot and then matches each session with the passed filters. If the session keys match with any one of the passed filters, then notify the same to the NF with the matched IN filter condition.
- A NOT-MATCH operation with more than one condition.
- The IN and NOT operations in the CDL CLI.
- IPC streaming for the notifications.

In the previous releases, the CDL used a unary RPC for sending notifications to the application. With this release, the CDL supports the bidirectional streaming RPC for optimizing IPCs between it and the application.

## How it Works

This section describes the sequence of operations for the CDL to support the different filter conditions in FindAll and FindAllNotify queries.

### Support IN Filters

1. The system checks for all the AND and IN conditions inside the query parameter.
  - If both the AND and IN query filters are in the query, then it's processed in the following manner:
    - The CDL first checks all the AND filters. If any of the AND filter fails, then it skips the other AND filters and IN filters because the key did not match the filter.
    - After all the AND filters are matched, then check the IN filters. If any of the IN filters is matched, then the CDL skips the other IN filters because the key already matched the filter.
  - If only the IN filters are in the query and any of the IN filter is matched, then the CDL skips processing the other IN conditions.
2. If there are more than 20 IN filters in the query request, then respond back with a 400 Bad Request message.
3. The CDL sends the matched IN filter condition along with the notification only when it is enabled in the FindAllNotify query request.




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#### Note

If more IN filters are passed in the request, the query performance is impacted.

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### Support NOT-MATCH Operation with More than One Condition

The CDL supports the additional conditions for this query filtering:

- not-match
- not-starts-with
- not-ends-with



- not-contains



**Note** If any key(pk/uk/nuk) in a session satisfies the NOT condition, then that session is matched for the filter.

### Support the IN and NOT Operations in the CDL CLI

- Support the following additional conditions for filtering the sessions in CLI:
  - contains
  - not-contains
  - not-ends-with
  - not-starts-with
  - not-match
- Support the in-filter filter in addition to the AND filter filter for the IN operations in CLI

The following code snippet is a sample CLI command:

```
cdl show sessions summary filter { condition ends-with key 6 } in-filter { in-condition
starts-with key key-1 } in-filter { in-condition starts-with key key-2 }
```



**Note** The filter and in-filter filters are a list of conditions. The query supports a maximum of 20 in-filters filters. The order of the filters, filter and in-filter does not matter as the filters mentioned with filter are grouped together. Likewise, the filters mentioned with in-filter are also grouped together.

- The following CDL operations are supported for filtering with filter and in-filter:
  - cdl show sessions count summary
  - cdl show sessions count detailed
  - cdl show sessions detailed
  - cdl show sessions summary
  - cdl clear sessions

### Support Streaming Notifications

- The CDL uses bi-directional streaming RPC to send the notifications over a stream with a transaction ID to the application. The response is sent in a different stream from the application to the datastore with the transaction ID for correlation.

- By default, the CDL uses unary RPC and the streaming functionality is disabled. Streaming is enabled only when the feature flag `use-stream` is configured in the CDL CLI. If the streaming is enabled, then all the CDL notifications are sent using the streaming.

To enable the streaming for notification functionality, use the following CLI command:

```
cdl datastore session slot notification use-stream true
```

- If the streaming is enabled, then by default there are four stream connections from the CDL to a notification endpoint. The connection count can be configured by using the CDL CLI. The stream connections are used in the round robin manner.
- Support metrics to check the number of active stream connections from the slot or endpoint to the notification endpoint. Use these metrics to generate alerts when there is no active stream connection.