

Migration Tools for BroadWorks, Webex for BroadWorks, and BroadCloud to Wholesale RTM Solutions

Version: 1.8

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Overview

This document covers a set of migration tools that helps to migrate existing BroadWorks, Webex4BroadWorks, and BroadCloud customers to the Wholesale Route-to-Market solution. The migration tools are easy-to-access command line tools that allow migrating the customers, locations, numbers, users, services, phones, and soft clients by automating the migration tasks. The migration tools offer the following benefits:

- Run migration with minimal pre-configuration.
- Ease commands to run.
- Administrators can review their data after the provisioning and make and receive calls immediately after the migration.
- It supports an automatic upgrade to the Webex App for UC-One clients.

Migration Tools Architecture

Each migration tool is flexible for administrators to run, monitor migration status, and allow rerun if any issues. Additionally, migration tools feed the analytics metrics into the Webex services to view the overall migration status.

The Migration Tools architecture consists of four different tools that perform various operations:

1. Extract Tool

- a. It extracts the enterprises, groups, numbers, users, services, phones, and soft clients from BroadWorks. For BroadCloud, partners should submit an extract request in the Service Provider Portal.

2. Transform Tool

- a. It transforms the information extracted by the extract tool into a JSON file that can be edited.

3. Provisioning Tool

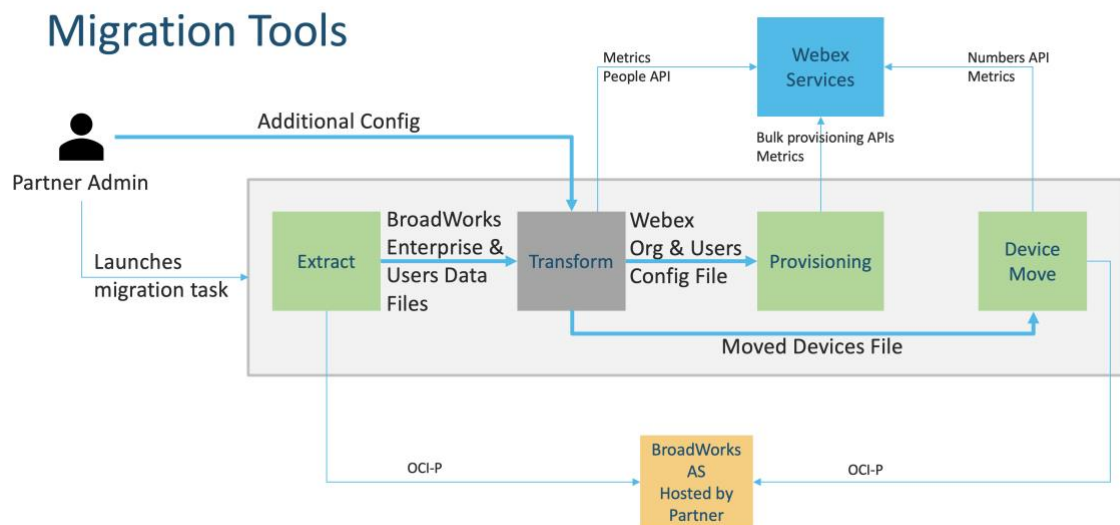
- a. It uses the Transform Tool JSON output file as an input and provisions the customers, locations, numbers, users, services, and phones using [Webex Public APIs](#).

4. Device Move Tool

- a. It also uses the Transform Tool JSON output file as an input to rebuild the profiles and reboot the phones, activates numbers in the Wholesale RTM solution, and deactivates phone numbers in BroadWorks.

- b. Additionally, this tool supports reverting phone and soft client profiles and number activation back in BroadWorks.
- c. For BroadCloud, partners should submit a migration request in the Service Provider Portal.

The following illustration represents how the four tools work sequentially by communicating with BroadWorks, Public APIs, and uploading metrics to the Webex services for future analytics after the administrator launches the migration tasks.



Requirements

Before running migration tools, the partner must meet the following requirements:

1. The partner and partner administrator account must be onboard in the Wholesale RTM solution. During the pre-sale stage, partners are not required to be onboarded into the Wholesale RTM solution for running the extract tool.
2. The partner must go through the pre-migration checklist to make sure all requirements are met.
3. BroadWorks system administrator credentials are required to run the extract and device move tools. It is not applicable for BroadCloud partners.
4. An extract and device move tools must run inside the secondary BroadWorks Application Server during a maintenance window to minimize risk. For BroadCloud, it will run inside the Service Provider portal.

5. Refer to this link for the supported Webex Calling devices for migration - <https://help.webex.com/en-us/article/gkwt4j/Supported-devices-for-Webex-Calling>
6. Refer to this [section](#) for non-supported devices.
7. Partners must ask their account team at Cisco to get the supported firmware version for phones and devices.
8. UC-One clients must upgrade to the following versions:
 - a. For Desktop Communicator clients, version 22.9.12 or higher
 - b. For Mobile Connect clients, version 3.9.14 or higher.
9. The administrator's machine must have JDK/JRE 1.8 environment to run the provisioning tool, and MAC/LINUX must have a Python 3.10.5 or higher to run the transform tool.
10. Customers must have a valid billing address, and end users must have a business email address in BroadWorks. If the values are unavailable in BroadWorks, partner administrators must contact their customers to get them. These details must be added to the CSV files before running the transform tool. Sample CSV file are provided with the transform tool.

Migration Plan

The migration plan has 3 stages:

1. One week before the migration
2. Two days before the migration
3. On migration day

One week before the migration

1. Run the extract and transform tool.
2. Use the exception report to resolve issues in BroadWorks.
3. You can run the extract and transform tools many times.

Two days before the migration

1. Run the provisioning tool to provision the customer, location, users, services, and devices in the Webex Wholesale Calling.
2. Review the data in the Control Hub portal before the migration.

On migration day

1. Run the device move tool to complete the migration from BroadWorks to Webex Wholesale Calling.

Features Automatically Migrated to Wholesale Calling

These user features are automatically migrated by the migration tools:

- Voice Messaging settings and custom greetings (voice messages are **not** migrated)
- Alternate Numbers
- BroadWorks Anywhere
- Busy Lamp Field
- CallerId (Custom name and phone number)
- Call Waiting
- Call Forwarding settings (Call Forwarding Always/Busy/No Answer/Not Reachable)
- Call Intercept
- Do Not Disturb
- Fax settings
- Remote Office
- Shared Call Appearance
- Simultaneous Ring Personal (including schedule and selective criteria)

These group features are automatically migrated by the migration tools:

- Auto-Attendant
 - One level only
 - Custom greetings
 - Call Forwarding settings (always, busy, selective)
 - Alternate numbers
 - Holiday menu is NOT available in Webex
- BroadWorks Call Center Standard and BroadCloud Call Queue:
 - Basic configuration
 - Custom greetings
 - Agents and supervisors
 - Call Forwarding settings (always, busy, selective)
 - Alternate numbers
 - Music-on-hold
- Call Park
- Call Pickup

- Hunt Group
 - Call Forwarding settings (always, busy, selective, not reachable)
 - Alternate numbers
- Location code (one per location or group)
- Paging Group
- Schedules (Group-level only, enterprises schedules are not migrated)
- Voice Portal

Phones Automatically Migrated

The phones in the table below are automatically migrated by the migration tools. These phones will be automatically created and assigned to users in Webex Calling by the provisioning tool. The phones marked “yes” in the column “Supported in the Device Move tool” will also be automatically moved from BroadWorks or BroadCloud to Webex Calling when the device move tool is run. Phones marked “NO” in that column need a manual intervention to change the DMS URL in the BroadWorks device template or in the phone itself.

The last column provides the mapping of phone models to the “Device Type” column of the file transform-tool/input/newphones.csv. (See page 21 for more information on newphones.csv)

Phone Model	Supported in Device Move tool	Device Type in newphones.csv
Cisco MPP 6821	Yes	DMS Cisco 6821
Cisco MPP 6841	Yes	DMS Cisco 6841
Cisco MPP 6851	Yes	DMS Cisco 6851
Cisco MPP 6861	Yes	DMS Cisco 6861
Cisco MPP 6871	Yes	DMS Cisco 6871
Cisco MPP 7811	Yes	DMS Cisco 7811
Cisco MPP 7821	Yes	DMS Cisco 7821
Cisco MPP 7832	Yes	DMS Cisco 7832
Cisco MPP 7841	Yes	DMS Cisco 7841
Cisco MPP 7861	Yes	DMS Cisco 7861
Cisco MPP 8811	Yes	DMS Cisco 8811
Cisco MPP 8832	Yes	DMS Cisco 8832
Cisco MPP 8841	Yes	DMS Cisco 8841
Cisco MPP 8845	Yes	DMS Cisco 8845
Cisco MPP 8851	Yes	DMS Cisco 8851
Cisco MPP 8861	Yes	DMS Cisco 8861
Cisco MPP 8865	Yes	DMS Cisco 8865
Cisco MPP 8875	Yes	DMS Cisco 8875
Cisco ATA191	Yes	DMS Cisco 191
Cisco ATA192	Yes	DMS Cisco 192

Polycom VVX101	Yes	DMS Polycom VVX101
Polycom VVX150	Yes	DMS Polycom VVX150
Polycom VVX201	Yes	DMS Polycom VVX201
Polycom VVX250	Yes	DMS Polycom VVX250
Polycom VVX301	Yes	DMS Polycom VVX301
Polycom VVX311	Yes	DMS Polycom VVX311
Polycom VVX350	Yes	DMS Polycom VVX350
Polycom VVX401	Yes	DMS Polycom VVX401
Polycom VVX411	Yes	DMS Polycom VVX411
Polycom VVX450	Yes	DMS Polycom VVX450
Polycom VVX501	Yes	DMS Polycom VVX501
Polycom VVX601	Yes	DMS Polycom VVX601
Polycom Trio 8300	Yes	DMS Polycom Trio8300
Polycom Trio 8500	Yes	DMS Polycom Trio8500
Polycom Trio 8800	Yes	DMS Polycom Trio8800
Polycom SoundStation 5000	Yes	DMS Polycom SSIP 5000
Polycom SoundStation 6000	Yes	DMS Polycom SSIP 6000
Yealink T33G	Yes	DMS Yealink T33G
Yealink T41S	Yes	DMS Yealink T41S
Yealink T42S	Yes	DMS Yealink T42S
Yealink T43U	Yes	DMS Yealink T43U
Yealink T46U	Yes	DMS Yealink T46U
Yealink T46S	Yes	DMS Yealink T46S
Yealink T48S	Yes	DMS Yealink T48S
Yealink T48U	Yes	DMS Yealink T48U
Yealink T53W	Yes	DMS Yealink T53W
Yealink T54W	Yes	DMS Yealink T54W
Yealink T57W	Yes	DMS Yealink T57W
Yealink T58V	Yes	DMS Yealink T58V
Yealink CP920	Yes	DMS Yealink CP920
Yealink CP960	Yes	DMS Yealink CP960
Yealink W52B	Yes	DMS Yealink W52P
Yealink W56B	Yes	DMS Yealink W56P
Yealink W60B	Yes	DMS Yealink W60P
Yealink W70B	Yes	DMS Yealink W70P

Selection of Wholesale Calling Packages

The migration tools have a set of defaults for selecting Wholesale Calling packages for subscribers.

After provisioning is completed, a partner admin can change the package in Control Hub.

For migrations from BroadWorks to Wholesale Calling, all subscribers will get the Webex Calling package. Optionally, the Webex Voice package can be selected for a subset of subscribers, namely subscribers who don't have Call Waiting or Voice Mail assigned in BroadWorks. The Webex Voice package can be enabled in `transform-tool/conf/partner.cfg`.

For migrations from Webex for BroadWorks to Wholesale Calling, the package mapping is shown in the table below. This is not configurable.

Webex for BroadWorks Package	Wholesale Calling Package
Softphone	Webex Voice
Basic	Webex Calling
Standard	Webex Suite
Premium	Webex Suite

For migrations from BroadCloud Carrier to Wholesale Calling, the package mapping is based on the station type in BroadCloud. The table below shows the default mapping, which can be modified in file transform-tool/conf/rialto_station_type_to_wholesale_package.csv.

BroadCloud Carrier Station Type	Wholesale Calling Package
Basic	Webex Voice
Conference Room	Webex Voice
Messaging	Webex Voice
Standard	Webex Voice
Executive	Webex Suite
All other station types	Webex Voice

Transforming a BroadWorks or BroadCloud User Account into a Webex Calling Workspace

Some user accounts in BroadWorks or BroadCloud Carrier are shared among many people, for example phones in a conference room, a warehouse, or in a lobby. Such phones can be configured in Webex Calling as Webex workspaces instead of Webex users. An option is available to transform some user accounts in BroadWorks or BroadCloud Carrier into workspaces automatically during the migration process.

Steps:

1. In the file transform_tool/input/users.csv, assign the “common_area” package to the users to be transformed into a Workspace
Example: bwuser@domain,,,common_area
2. (BroadCloud Only) To convert all user accounts of a specific station type into workspaces, add an entry to transform-tool/conf/rialto_station_type_to_wholesale_package.csv and set the Wholesale package to “common_area_calling”
Example: conference_room_v2,common_area_calling

Migration Tools for BroadWorks to Wholesale RTM Migrations

3. Run the transform tool as usual
4. Run the provisioning tool as usual
5. Open Control Hub of the newly created customer org and set a SIP domain (see screenshot on the next page)
6. Run the provisioning tool again, this time with the -workspaces option. This will create the workspaces and assign phones to it.

Limitations:

- Configuration of user features (e.g., call forwarding, do not disturb) is not automatically migrated to the workspace.

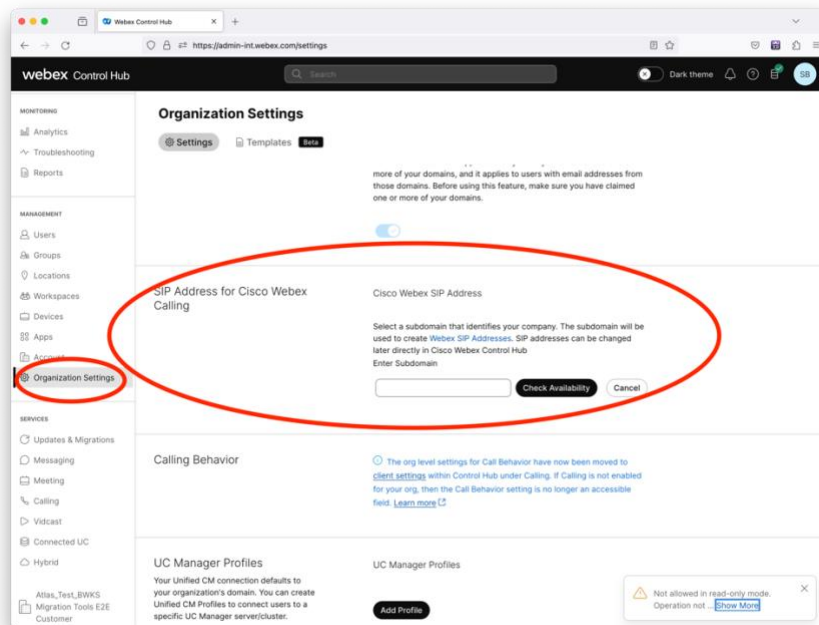


Figure 1 Configuring a SIP domain in Control Hub

Migration Responsibilities for Partners and Cisco

The tables below explain who is responsible for completing the migration tasks:

Technical

Area	Activities	Cisco Responsibility	Partner Responsibility
Migration prep	<ol style="list-style-type: none"> 1. Verifying customer LANs, devices and firmware 2. Verifying DHCP and SBC configurations 3. Obtaining MAC addresses, email addresses, billing addresses 4. RedSky provisioning 	Cisco provides partner with the pre-migration checklist	Partner is responsible for validating migrated customers against the pre-migration checklist
Customer migration	<ol style="list-style-type: none"> 1. Customer migration 2. Site migration 3. User migration 4. Group & user service configuration 	Cisco provides automated migration tools, TAC support and documentation	Partner uses the tools to execute the migration.
PSTN routing migration	<ol style="list-style-type: none"> 1. Update TN routing to the new hosting platform 	Cisco provides guidance on PSTN routing migration	Partner is responsible for migrating PSTN
Client migration	<ol style="list-style-type: none"> 1. Client branding 2. Client publishing 3. Client download, login & test 	<ol style="list-style-type: none"> 1. Cisco publishes the client 2. Cisco provides migration landing page 	<ol style="list-style-type: none"> 1. Users download the Webex client 2. Users create new Webex password

Migration

Area	Activities	Cisco Responsibility	Partner Responsibility
Device migration	<ol style="list-style-type: none"> 1. Configuration update 2. Registration & test 	Cisco provides automated migration tools, TAC support and documentation	Partner uses the tools to executes the migration.

Migration Change Management and GTM

Area	Activities	Responsibility		Target	
		Cisco	Partners	Admin	Users
Upgrade campaign	Inform customers, administrators and users of the upcoming functionality through a multi-touch campaign (e.g., videos, value proposition, use-cases)	Content	Execution	✓	✓
Upgrade MOP	Provide administrators and users with specific dates and instructions related to the migration (e.g. restart device, download clients, documentation)	Content	Execution	✓	✓
Post migration test	Execute remote testing of new solution and have admin perform some on-site tests of new functionality	Test suite	Execution	✓	
Adoption campaign	Promote new functionality and monitor usage of clients and new features to ensure adoption and address issues proactively	Content	Execution	✓	✓

Token Generator - (Utility Tool)

Partner administrators run this token generator utility tool at least one time before starting to run migration tools. Running this tool is a one-time activity after the partner account gets onboarded into the Wholesale RTM solution. This tool provides a user interface that allows partner administrators to log in via web browser to get the unique TOKEN that needs to update to the partner configuration file for running the migration tools.

Prerequisites

1. After downloading and extracting the migration tools binaries,
 - a. Set the JRE/JDK environment path in the token_generator.sh for MAC and token_generator.bat for Windows. This step is optional. If JAVA_HOME path already exists, tool will use that.

MAC: JAVA_HOME="/Users/cisco/jdk/zulu@1.8.282/Contents/Home/"

Windows: JAVA_HOME=C:\Progra~1\Java\jre1.8.0_321

Instructions to Run

Follow the below instructions to run this token generator tool in Windows and MAC operating systems. Run the following command in the terminal inside the token generator directory:

Note: The ports below must be available for running the token generator tool.

Ports: 8080, 50009, 50010, 50011, 50012, and 50013

Windows

token_generator.bat

macOS

./token_generator.sh

After running the commands above, we will get the following output in the terminal:

Tool Name: Token Generator Tool


Version: 1.13.0

Load the URL in your web browser: http://localhost:8080

Open the URL in the web browser showing on the terminal to get the TOKEN by login in with the partner administrator credentials. The user interface illustrations are given below for reference:

Login with Cisco Webex

Login



Welcome **bpb.wholesale+int@gmail.com**

Sign in

[Forgotten password?](#)

[Need help signing in?](#)

Token

MzUwYjJjODEtYmQ4MS00NGVhLTgwNGUtZjQ1NTEyZTViNzJkOTdjNGJhOGUtMjNi_A52D_4c914ca5-81e4-4573-8

Copy

Copy the token above from the screen and keep it in your notepad to use it when running other tools.

BroadWorks Setup Tasks

The following configuration must be configured in the BroadWorks before running the extract and device move tools in the secondary BroadWorks server. This is applicable for BroadWorks and Webex for BroadWorks. *These steps are NOT applicable to BroadCloud.*

Enable OCI-P Connectivity

The OCI-P connectivity must be turned ON in BroadWorks for the extract, and the device move tool communicates with the BroadWorks through OCI-P commands. Use the steps below to enable the OCI-P connectivity:

Step 1: Use the CLI to configure General Settings:

Run the following command in CLI to change to the GeneralSettings directory:

```
AS_CLI> cd /Applications/OpenClientServer/GeneralSettings.
```

Run the following command in CLI to get the current GeneralSettings:

```
AS_CLI/Applications/OpenClientServer/GeneralSettings> get
clientPort = 2208
clientPortEnabled = true
secureClientPort = 2209
secureClientPortEnabled = true
systemDomain = <>
```

If your settings do not match the above, use the **set** command to reconfigure your settings.

Step 2: Use the CLI to configure the OCI Proxy:

Change the directory to OCI Proxy:

```
AS_CLI> cd /Applications/OpenClientServer/OCIProxy
```

Run the following CLI to get current settings. You should see the following:

```
AS_CLI/Applications/OpenClientServer/OCIProxy> get
enabled = true
enabledLoginLevelScreening = false
enableResponseCaching = false
responseCacheDurationHours = 24
responseCacheRenewPeriodMins = 30
messageQueueCapacity = 50
messageQueueTimeoutSeconds = 1800
```

If your settings do not match the above, use the **set** command to reconfigure your settings.

Step 3: Use the CLI to configure OCI Provisioning:

Change to the Provisioning directory:

```
AS_CLI> cd /System/NetworkAccessLists/OCI/Provisioning
```

Run the following command to get the current OCI Provisioning settings:

```
AS_CLI/System/NetworkAccessLists/OCI/Provisioning> get
```

Address Description

=====

127.0.0.1 local as

Step 4: Run the command below in CLI to verify that your configuration is correct:

```
AS_CLI/Maintenance/ManagedObjects> get broadworks and check
```

that your output looks OK.

See below for sample output:

```
AS_CLI/Maintenance/ManagedObjects> get broadworks
```

BroadWorks Managed Objects

=====

* Server:

Identity.....: AS

Version.....: Rel_21.sp1_1.551

Administrative State..: Unlocked

* Applications:

Name Version Deployed Administrative State Effective State

=====

ExecutionAndProvisioning 21.sp1_1.551 true Unlocked Unlocked

FlashPolicy 21.sp1_1.551 false Unlocked Stopped

OpenClientServer 21.sp1_1.551 true Unlocked Unlocked

WebContainer 21.sp1_1.551 true Unlocked Unlocked

4 entries found.

* Hosted Applications:

Name Version Context Path Deployed

=====

CommPilot 21.sp1_1.551 / true

DeviceManagementFiles 21.sp1_1.551 /DeviceManagement true

JWSFiles 21.sp1_1.551 /FileRepos true

MediaFiles 21.sp1_1.551 /media true

OCIFiles 21.sp1_1.551 /ocifiles true

5 entries found.

Verify Open Client Server is Deployed and Active

Use the commands below to deploy and start the Open Client Server on the secondary Application Server if it is not deployed or have not started already.

Step 1: Deploy the server with the following CLI command:

```
AS_CLI/Maintenance/ManagedObjects> deploy application OpenClientServer
```

Step 2: Start the server with this command:

```
AS_CLI/Maintenance/ManagedObjects> start application OpenClientServer
```

Enable Numbers Activation

Execute the following commands in CLI to enable the activation of the numbers:

Step 1: Run the `AS_CLI> cd SubscriberMgmt/NumberActivation` command.

Step 2: Run the `AS_CLI> set dnMode groupAndUserActivationEnabled` command.

Step 3: At the confirmation prompt, enter `Y`.

Extract Tool

There are two variants of the extract tool:

1. For BroadWorks and Webex for BroadWorks migrations, the Extract tool runs on the secondary BroadWorks Application Server within the partner network and connects via OCI-P.
2. For BroadCloud migrations, the Extract tool runs within the Rialto platform. A Service Provider Admin uses the Service Provider portal to submit an extract request.

In both cases, the tool pulls raw enterprise, group, numbers, users, services, devices, and soft client's data from the BroadWorks or BroadCloud platform and outputs this data to XML files that provide the inputs for the Transform tool.

Extract Tool for BroadCloud Partners

The extract tool is integrated in the BroadCloud Service Provider portal. A Service Provider Admin can:

1. Submit extract requests for up to 50 customers¹ per request.
2. Download the extracted data file, in ZIP format, for up to 28 days from request submission date.

¹ Extract request cannot be submitted for the same customer more than 10 times in a day.

Migration Tools for BroadWorks to Wholesale RTM Migrations

The figures below show the Service Provider portal.

[illegible]

Service Provider Portal

Welcome BreadCloud 2 Wholesale Migration
Privacy Statement | Logout

English Combined Universal 1

Home

Profile

Create Sales Organization

View Sales Organization

Create Sales Executive

View Sales Executive

Create Role

View Roles

Create Tax User

View Tax Users

Create Customer

View Customers

Customer Service Tool

Initiate Request

View Requests

Initiate Extract Request

View Extract Requests

Initiate Migration Request

View Migration Requests

View Wholesale Migration Extract Requests

Request ID:

Status:

Submitted Date:

Go

Cancel

Request(s)

Displaying 1 - 4 of 4

Request ID	Submitted Date	Status	Completed Date	Action
100001	09/10/2023	COMPLETED	09/10/2023	Download
100002	09/10/2023	COMPLETED	09/10/2023	Download
100003	09/10/2023	COMPLETED	09/10/2023	Download
100004	09/10/2023	COMPLETED	09/10/2023	Download

Extract Tool for BroadWorks and Webex for BroadWorks

For BroadWorks and Webex for BroadWorks, the extract tool runs on the secondary BroadWorks AS. The next sections explain how to install and configure the extract tool.

SCP and SSH

1. SCP the extract tool binaries inside the secondary BroadWorks Application Server.
2. SSH to the secondary BroadWorks Application Server to configure the prerequisites and run the extract tool.

Prerequisites

1. Configure the Service Provider and Group ID to extract from BroadWorks in the `conf/exportTool.yml`. Refer to the below sample YAML snippet:

ServiceProviderID-A:

- GroupID-A1

- GroupID-A2

- GroupID-A3

ServiceProviderID-B:

- ALL

2. Ensure the secondary BroadWorks Application Server User ID, Password, and Host Name are correct in the `conf/partner.cfg` file:

```
userId = admin
password = admin
hostName = localhost
refreshToken = Partner administrator's refresh token copied from the Token Generator tool.
migrationMode = Supported values are broadworks_to_wholesale and webex_for_broadworks_to_wholesale.
The default value is broadworks_to_wholesale. Use webex_for_broadworks_to_wholesale for Webex for
BroadWorks migrations.
```

Note: The ``refreshToken`` property is mandatory for a Webex for BroadWorks migration, and the ``migrationMode`` is optional for BroadWorks migration.

3. Modify the JDK/JRE environment path in the `export.sh` file if the secondary BroadWorks Application Server JDK/JRE environment path is different than the file:

```
JAVA_HOME=/usr/local/java/java_base
```

Instructions to Run

Run the command below in the secondary BroadWorks Application Server from the extract tool binaries directory:

```
./export.sh
```

Terminal Logs

We will get the following logs in the terminal on successful export: Running BroadSoft Data Export Tool:

```
Running BroadSoft Data Export Tool
```

```
*****
```

```
Starting Export Tool v: 1.15.0
```

```
Export started for SP=collabmigrationtestSP_engg, Group=collabmigrationtestGRP_engg
```

```
Exporting users for SP=collabmigrationtestSP_engg, Group=collabmigrationtestGRP_engg
```

```
Export users completed for SP=collabmigrationtestSP_engg, Group=collabmigrationtestGRP_engg
```

```
Export completed for SP=collabmigrationtestSP_engg, Group=collabmigrationtestGRP_engg
```

```
Export completed
```

```
Export Dump Zip Directory : output/20221017223452_ExportTool
```

```
Export Dump Zip File name :extracted_data_1666060500618.zip
```

```
Zip file with the name extracted_data_1666060500618.zip has been created
```

```
ZIP file creation process completed
```

```
Exported files converted as ZIP file
```

```
*****
```

Output

An output ZIP (*extracted_data_<timestamp>.zip*) file will be available in the same extract tool binaries directory. Use the command below to view and use the ZIP file for the Transform Tool input:

```
ls -ltr
drwxr-xr-x 2 bwadmin bwadmin 4096 Oct 4 11:53 lib/
-rwxr-xr-x 1 bwadmin bwadmin 956719 Oct 4 11:53 exportTool.jar
-rwxr-xr-x 1 bwadmin bwadmin 2635 Oct 4 11:53 export.sh
drwxr-xr-x 2 bwadmin bwadmin 4096 Oct 5 05:04 conf/
drwxrwxr-x 3 bwadmin bwadmin 4096 Oct 17 22:34 output/
drwxrwxr-x 2 bwadmin bwadmin 4096 Oct 17 22:34 logs/
-rw-rw-r-- 1 bwadmin bwadmin 46341 Oct 17 22:35 extracted_data_1666060500618.zip
```

Transform Tool

This tool is common for all migrations: BroadWorks, Webex for BroadWorks, and BroadCloud.

The Transform tool runs on any computer, including a partner's administrator laptop, and uses the Webex Public APIs. This tool reads the extract tool output ZIP (*extracted_data_<timestamp>.zip*) file as an input and transforms the raw XML into a JSON format that can use by the Provisioning Tool.

Prerequisites

After downloading and extracting the Migration tools binaries, configure the following prerequisites inside the transform tool directory:

1. Set the REFRESH_TOKEN (Token copied from the Token Generator Tool) and NAME_OF_MAIN_LOCATION in the conf/partner.cfg file:

```
REFRESH_TOKEN=MzUwYjJjODEtYmQ4MS00NGVhLTgwNGUtZjQ1NTEyZTViNzJkOTdj
NAME_OF_MAIN_LOCATION=Main
```

2. Optionally set the PROVISIONING_ID (copied from the template in Partner Hub) in the conf/partner.cfg file:

```
PROVISIONING_ID=YmE4MjFkZGYtYTIkNy00NDdlLWlwODctYmNkOTM2NjUyYWQ1
```

3. Optionally fill-up the input/customers.csv file (see next section).
4. Add the end user email address in the input/users.csv file. This is not required if the email address is already in BroadWorks/BroadCloud.
5. Add the new phones mac address and email addresses of the user to assign in input/newphones.csv file. This is required only if the partner administrators want to provision new phones in Wholesale calling.

6. Optionally enable usage of MAC addresses from the User-Agent header of the SIP REGISTER message when the MAC address is not available in the BroadWorks device profile. Uncomment the line "USE_MAC_ADDRESS_FROM_SIP_REGISTER=yes" in file conf/partner.cfg

Filling-up the input/customers.csv

The file input/customers.csv provides data that maybe missing in BroadWorks or BroadCloud (Rialto). This file can be left empty if all mandatory information is already available in BroadWorks or BroadCloud. You don't have to fill-up all columns, only the missing information is mandatory.

The table below explains the most important columns in input/customers.csv.

Column Name	Rules
Id	<ul style="list-style-type: none"> - in BroadWorks enterprise mode: <ul style="list-style-type: none"> a) this is the BroadWorks serviceProviderId for the enterprise. b) Also, a separate line is needed for each group within the enterprise. The Id is the BroadWorks groupId. - in BroadWorks service provider mode, this is the BroadWorks groupId. - in BroadCloud, this is the Rialto customerId.
externalId	<p>This is an identifier that matches the partner's internal identifier for this customer. This column must be unique within a Webex partner org. This column is optional, a unique identifier will be generated automatically by the transform tool.</p> <p>This column is not used for groups within an enterprise.</p>
customerName	<p>For the enterprise, this column is used as the Webex customer name field. For a group within an enterprise, this column is used as the location name. <i>Location names must be unique within an enterprise.</i></p>
primaryEmail	<p>This is used as the email address of the Webex customer admin. This column is optional for groups within an enterprise.</p>
Address columns	<p>For an enterprise, the address is used as the billing address and the first location address.</p> <p>For a group within an enterprise, the address is used as the location address.</p>

Instructions to Run

Run the Transform Tool in any operating system. Use the below steps to run the tool in Windows and macOS:

Windows

Execute the command below to run the Transform Tool in Windows:

```
transform.bat -extract=<Extract-Tool-Output-Zip-file> -customers=<Input-Path-Customers-CSV> -users=<Input-Path-Users-CSV> -newphones=<Input-Path-NewPhones-CSV>
```

macOS

Execute the following steps to run the transform tool on MAC OS:

1. Execute the commands below to create a virtual environment and install dependencies to run the transform tool using Python:

```
python3 -m venv venv
source venv/bin/activate
python3 -m pip install requests
python3 -m pip install requests-oauthlib
```

2. Run the command below to run the transform tool:

```
./transform.sh -extract=<Extract-Tool-Output-Zip-file> -customers=<Input-Path-Customers-CSV> -users=<Input-Path-Users-CSV> -newphones=<Input-Path-NewPhones-CSV>
```

Customer/User Precheck

The Transform Tool uses the Webex Wholesale precheck APIs to catch likely provisioning issues so they can be corrected ahead of time. By default, it will validate the customer's address and primary email. If the PROVISIONING_ID value is specified in the conf/partner.cfg file, it will also validate the location information for the customer as well. The precheck results are included in the exception report.

Additionally, the following optional parameters can be added when running the transform tool:

- -precheck
In addition to running the precheck API for the customer information, the Transform Tool will also run the precheck API for the subscriber emails.
- -precheckinfo
By default, only precheck errors (i.e., issues that will block provisioning) are included in the exception report. Adding this flag will include successful precheck results as well (e.g., if a Webex organization already exists that can be automatically attached).

Terminal Logs

We will get the following logs in the terminal on successful transform:

```
Summary Report
BroadWorks enterprises that can be successfully migrated: 1
BroadWorks enterprises that cannot be migrated: 0
BroadWorks users that can be successfully migrated: 4
BroadWorks users that cannot be migrated: 0
Phones that can be successfully migrated: 3
Phones that are not compatible with Webex Calling: 0
```

Exception Report

Transform Tool generates the exception report inside the `output/<timestamp>/exception_report.txt` directory. You can use this report to identify the issues that will affect the migration and fix them in

the BroadWorks system. After applying the fix, rerun the Extract and Transform tool with the new data. The sample exception report file as follows:

Exception Report

Tue Oct 18 08:12:09 2022

Enterprises with Communication Barring Feature

Recommendation: manually configure the Outgoing Calling Plan in Control Hub

collabmigrationtestGRP_engg

Output

An output JSON (*customer.json*) file will be available in the *output/<timestamp>/<groupid>* directory.

The sample *customer.json* file is as follows:

```
{
  "customer": {
    "provisioningId": "!!!!!!!!!!REPLACE_WITH_PROVISIONINGID!!!!!!!!!!",
    "packages": [
      "webex_calling",
      "common_area_calling"
    ],
    "externalId": "external_id_engg_grp1",
    "address": {
      "addressLine1": "100 Main Street",
      "addressLine2": "",
      "city": "Gaithersburg",
      "stateOrProvince": "MD",
      "zipOrPostalCode": "20877",
      "country": "US"
    },
    "customerInfo": {
      "name": "Engineering Group - 1",
      "primaryEmail": "amareswaranvel+engineeringgroup1@gmail.com"
    },
    "provisioningParameters": {
      "calling": {
        "location": {
          "name": "Main",
          "address": {
            "addressLine1": "100 Main Street",
            "addressLine2": ""
```



```
"city": "Gaithersburg",
"stateOrProvince": "MD",
"zipOrPostalCode": "20877",
"country": "US"
},
"timezone": "America/New_York",
"language": "en_us",
"numbers": [
  "+15205551101",
  "+15205551102",
  "+15205551103",
  "+15205551104",
  "+15205551105",
  "+15205551106",
  "+15205551107",
  "+15205551108",
  "+15205551109",
  "+15205551110"
],
"mainNumber": "+15205551101"
}
}
}
},
"broadworks_info": {
  "service_provider_id": "collabmigrationtestSP_engg",
  "group_id": "collabmigrationtestGRP_engg"
},
"subscribers": [
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551102",
          "extension": "1102"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551103",
          "extension": "1103"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551104",
          "extension": "1104"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551105",
          "extension": "1105"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551106",
          "extension": "1106"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551107",
          "extension": "1107"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551108",
          "extension": "1108"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551109",
          "extension": "1109"
        }
      }
    }
  },
  {
    "amareswaranvel+benjaminjack@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
        "email": "amareswaranvel+benjaminjack@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Benjamin",
          "lastName": "Jack",
          "primaryPhoneNumber": "+15205551110",
          "extension": "1110"
        }
      }
    }
  }
],
"mainNumber": "+15205551101"
}
```

```
"features": [  
  {  
    "/v1/people/{personId}/features/voicemail": {  
      "enabled": true,  
      "sendBusyCalls": {  
        "enabled": true,  
        "greeting": "DEFAULT"  
      },  
      "sendUnansweredCalls": {  
        "enabled": true,  
        "greeting": "DEFAULT",  
        "numberOfRings": 3  
      },  
      "messageStorage": {  
        "mwiEnabled": true,  
        "storageType": "EXTERNAL",  
        "externalEmail": "engineering17861@mailinator.com"  
      }  
    }  
  },  
  {  
    "cisUuid": "!!!!!!!!!!REPLACE_WITH_PERSONID!!!!!!!!!!",  
    "product": "DMS Cisco 7861",  
    "mac": "CC98914EAAD7"  
  }  
],  
"devices": [  
  {  
    "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",  
    "email": "amareswaranvel+lucasoliver@gmail.com",  
    "package": "webex_calling",  
    "provisioningParameters": {  
      "firstName": "Lucas",  
      "lastName": "Oliver",  
      "primaryPhoneNumber": "+15205551103",  
      "extension": "1103"  
    }  
  }  
]
```

```

    },
    "features": [
      {
        "/v1/people/{personId}/features/voicemail": {
          "enabled": true,
          "sendBusyCalls": {
            "enabled": true,
            "greeting": "DEFAULT"
          },
          "sendUnansweredCalls": {
            "enabled": true,
            "greeting": "DEFAULT",
            "numberOfRings": 3
          },
          "messageStorage": {
            "mwiEnabled": true,
            "storageType": "EXTERNAL",
            "externalEmail": "engineering16821@mailnator.com"
          }
        }
      }
    ],
    "devices": [
      {
        "cisUuid": "!!!!!!!REPLACE_WITH_PERSONID!!!!!!!",
        "product": "DMS Cisco 6821",
        "mac": "5486BCAE7E45"
      }
    ]
  },
  {
    "amareswaranvel+leojackson@gmail.com": {
      "subscriber": {
        "customerId": "!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!",
        "email": "amareswaranvel+leojackson@gmail.com",
        "package": "webex_calling",
        "provisioningParameters": {
          "firstName": "Leo",
          "lastName": "Jackson",
          "primaryPhoneNumber": "+15205551104",
          "extension": "1104"
        }
      }
    }
  }
}

```

```

    }
  },
  "features": [
    {
      "/v1/people/{personId}/features/voicemail": {
        "enabled": true,
        "sendBusyCalls": {
          "enabled": true,
          "greeting": "DEFAULT"
        },
        "sendUnansweredCalls": {
          "enabled": true,
          "greeting": "DEFAULT",
          "numberOfRings": 3
        },
        "messageStorage": {
          "mwiEnabled": true,
          "storageType": "EXTERNAL",
          "externalEmail": "engineeringmacpc@mailnator.com"
        }
      }
    }
  ],
  "devices": []
}
},
{
  "amareswaranvel+owenalex@gmail.com": {
    "subscriber": {
      "customerId": "!!!!!!!!!!REPLACE_WITH_CUSTOMERID!!!!!!!!!!",
      "email": "amareswaranvel+owenalex@gmail.com",
      "package": "webex_calling",
      "provisioningParameters": {
        "firstName": "Owen",
        "lastName": "Alexander",
        "primaryPhoneNumber": "+15205551101",
        "extension": "1101"
      }
    }
  },
  "features": [
    {
      "/v1/people/{personId}/features/voicemail": {

```

```
"enabled": true,
"sendBusyCalls": {
  "enabled": true,
  "greeting": "DEFAULT"
},
"sendUnansweredCalls": {
  "enabled": true,
  "greeting": "DEFAULT",
  "numberOfRings": 3
},
"messageStorage": {
  "mwiEnabled": true,
  "storageType": "EXTERNAL",
  "externalEmail": "engineering8811@mailnator.com"
}
}
}
],
"devices": [
  {
    "cisUuid": "!!!!!!!!!!REPLACE_WITH_PERSONID!!!!!!!!!!",
    "product": "DMS Cisco 8811",
    "mac": "F87B204E4066"
  }
]
}
}
],
"auto_attendants": [],
"call_queues": [],
"hunt_groups": [],
"schedules": [],
"call_parks": [],
"call_pickups": [],
"paging_groups": [],
"voice_portals": [
  {
    "name": "Automated Voice Portal",
    "firstName": "Automated",
    "lastName": "Voice Portal",
    "languageCode": "en_us",
    "phoneNumber": "+15205551105",
```

```
"extension": "1105"
}
],
"shared_call_appearances": [],
"business_communicator_desktop_to_upgrade_to_webex_app": [
  "PC Comm - Engg Device Profile"
],
"connect_client_to_upgrade_to_webex_app": [],
"locations": [],
"webex_for_broadworks_info": {
  "users": [
    {
      "id":
"Y2IzY29zcGFyazovL3VzL1NVQINDUKlCRVlvY2QzNGViNWYtYTVmMi00OWQ1LTlkNWMTZTg1MDJiMDE4YTQ5"
    }
  ],
  "hydra_orgId":
"Y2IzY29zcGFyazovL3VzL09SR0FOSVpBVElPTi9jMjIYTMwNC1mODQ4LTRlOTktYWVmYy0zYWwRIMjBmYTgzZTg",
  "hydra_customer_config_id":
"Y2IzY29zcGFyazovL3VzL0VOVEVSUFJJU0UvYmlyMzA1MDEtMTUzMS00MzNiLTlIM2QzODExY2FIYUExYmVh"
}
}
```

Note: The `webex_for_broadworks_info` JSON property is present for Webex for BroadWorks migrations only. The `broadcloud_info` JSON property is present for BroadCloud migrations only.

Provisioning Tool

This tool is common for all migrations: BroadWorks, Webex for BroadWorks, and BroadCloud.

The Provisioning tool can run on any machine (partner's administrator laptop) and uses the Webex Public APIs. This tool reads the transform tool output JSON (*customer.json*) file as an input and provisioning the customers, locations, numbers, users, services, and devices in the Webex Wholesale RTM solution.

Prerequisites

After downloading and extracting the Migration tools binaries, configure the following prerequisites inside the provisioning tool directory:

1. Install Java 8, 11, or 17 on the computer. Java is available from many sources, including:
<https://learn.microsoft.com/en-us/java/openjdk/download>
<https://aws.amazon.com/corretto/>
https://download.oracle.com/java/17/latest/jdk-17_macos-x64_bin.dmg
2. After downloading and extracting the Migration tools binaries, set the JAVA_HOME environment variable in the provisioning_tool.sh for MAC and provisioning_tool.bat for Windows.

3. The partner.cfg file:
4. Set the PROVISIONING_ID and REFRESH_TOKEN (Token copied from the Token Generator Tool). The partner administrators must contact their account team to get the PROVISIONING_ID:

PROVISIONING_ID= Y2U4YWQxYmQtMWZINy00NjRiLWExMmItMGJkODMzN2U5NmU0

REFRESH_TOKEN=MzUwYjJjODEtYmQ4MS00NGVhLTgwNGUtZjQ1NTEyZTViNzJkOTdj

5. Set ALLOW_ADMIN_INVITE_EMAILS to false, if partner don't want to send welcome email to the users. Default value is true.
6. MIGRATION_MODE = Allowed values are broadworks_to_wholesale, webex_for_broadworks_to_wholesale, broadcloud_migration_same_region, and broadcloud_migration_to_another_region. This property is an optional for BroadWorks migration. Use `webex_for_broadworks_to_wholesale` for Webex for BroadWorks migrations. Use either `broadcloud_migration_same_region`, or `broadcloud_migration_to_another_region` for BroadCloud migrations.
7. Use WEBEX4BWKS_EMAIL_SUBJECT property for Webex for BroadWorks migrations to send the change password request email subject for Webex for BroadWorks subscribers.
8. Use WEBEX4BWKS_EMAIL_BODY property for Webex for BroadWorks migrations to send the change password request email body for Webex for BroadWorks subscribers.

For BroadCloud migrations same region,

1. Tool will skip the numbers, devices and Shared Call Appearances provisioning.
2. Tool will create users and virtual users with extension and temporary extension.

For BroadCloud migrations another region,

1. Tool will provision numbers, devices and Shared Call Appearances.
2. Tool will create users and virtual users with actual phone numbers and extension.

Instructions to Run

Run the Provisioning Tool in any operating system. Use the below steps to run the tool in Windows and macOS:

Windows

Execute the following steps to run the transform tool on Windows OS:

To provision single customer:

provision.bat -input=<Transform-Tool-Output-Customer-JSON-File-Path>

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To provision multiple customers:

```
provision.bat -input=<Transform-Tool-Timestamp-Output-Directory-Path>
```

macOS

Execute the following steps to run the transform tool on MAC OS:

To provision single customer:

```
./provision.sh -input=<Transform-Tool-Output-Customer-JSON-File-Path>
```

To provision multiple customers:

```
./provision.sh -input=<Transform-Tool-Timestamp-Output-Directory-Path>
```

Terminal Logs

We will get the following logs in the terminal on successful provisioning:

Tool Name: Provisioning Tool

Version: 1.15.0

****** Started Processing File : input/customer.json ******

Provisioning Customer

Waiting for customer external_id_engg_grp1 to complete provisioning...

Waiting for customer external_id_engg_grp1 to complete provisioning...

Customer external_id_engg_grp1 status : provisioned

Provisioning Numbers

Provisioning Users

Provisioning User Features

Provisioning Greetings

Provisioning Schedules

Provisioning Devices

Provisioning Shared Call Appearances

Provisioning Auto Attendants

Provisioning Call Queues

Provisioning Hunt Groups

Provisioning Group Pagings

Provisioning Call Parks

Provisioning Call Pickups

Provisioning Voice Portal

****** Completed File : input/customer.json ******

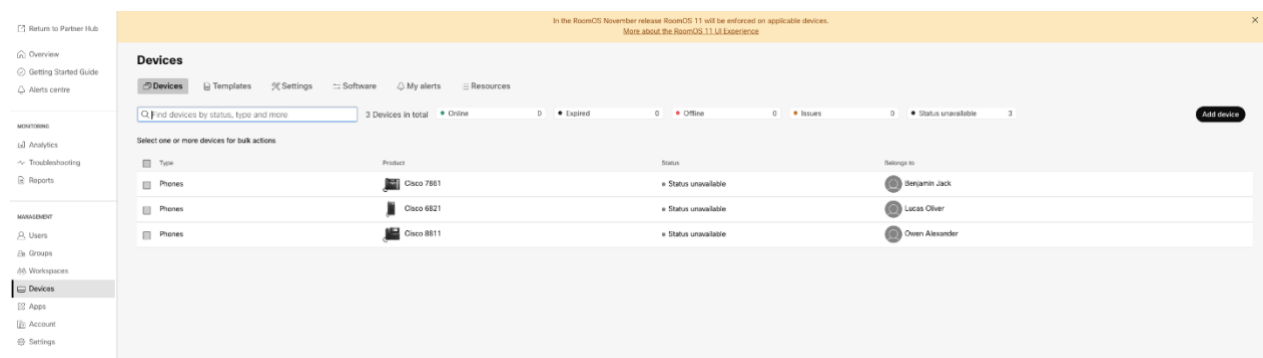
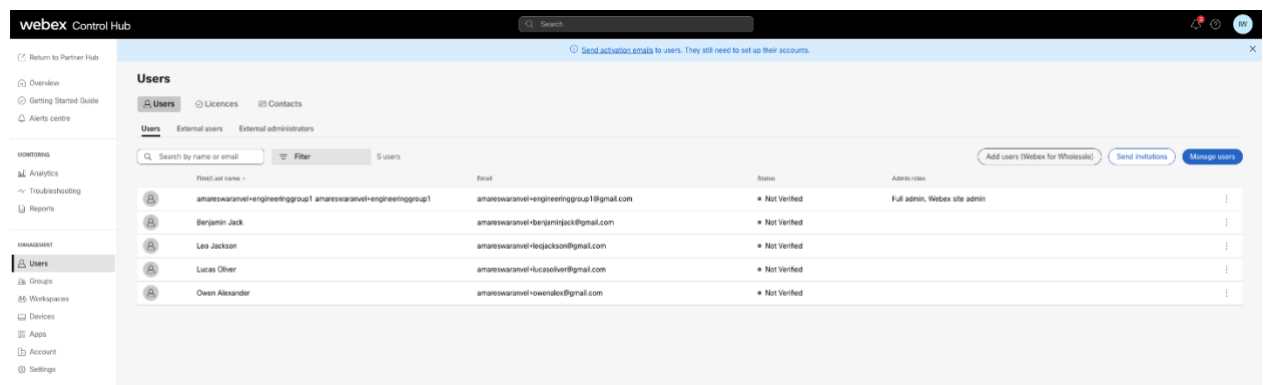
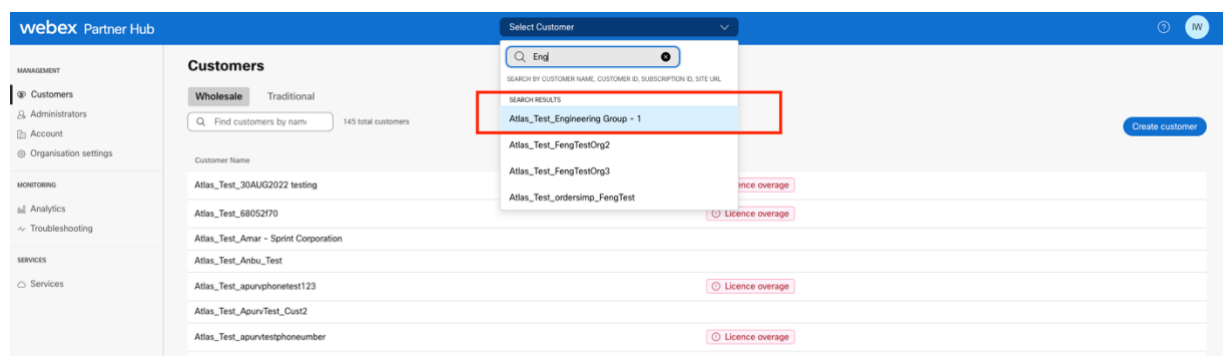
Migration Tools for BroadWorks to Wholesale RTM Migrations

Output

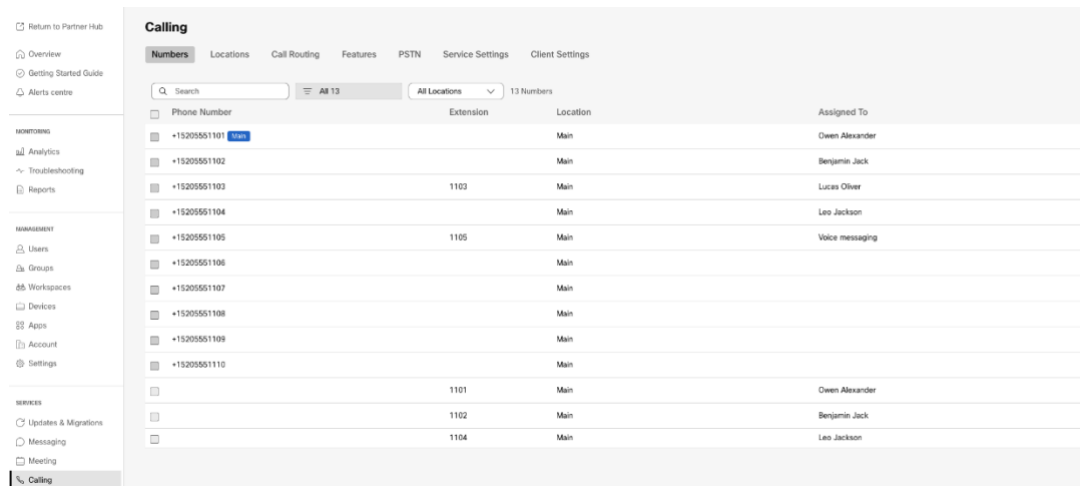
Provisioning Tool generates the success and error reports inside the `output/<external_id>/*.success/error` files. We can use these success and error files to ensure whether provisioning is a success or not.

Note: After successfully running the provisioning tool, customer administrators and end users will receive an email from the Wholesale RTM solution.

After successful provisioning, partner administrators can verify the customer provisioning in the Partner Hub and Control Hub Portal. Refer to the following illustrations from the Partner Hub and Control Hub Portal:



Migration Tools for BroadWorks to Wholesale RTM Migrations



The screenshot shows the 'Calling' section of the BroadCloud interface. It includes a sidebar with navigation options like 'Return to Partner Hub', 'Overview', 'Getting Started Guide', 'Alerts centre', 'MONITORING', 'ANALYTICS', 'TROUBLESHOOTING', 'REPORTS', 'MANAGEMENT', 'USERS', 'GROUPS', 'WORKSPACES', 'DEVICES', 'APPS', 'ACCOUNT', 'SETTINGS', 'SERVICES', 'Updates & Migrations', 'Messaging', 'Meeting', and 'Calling'. The main content area is titled 'Calling' and has tabs for 'Numbers', 'Locations', 'Call Routing', 'Features', 'PSTN', 'Service Settings', and 'Client Settings'. The 'Numbers' tab is active, showing a table of 13 numbers. The table has columns for 'Phone Number', 'Extension', 'Location', and 'Assigned To'. The numbers are listed in descending order of extension.

Phone Number	Extension	Location	Assigned To
+15205551101		Main	Owen Alexander
+15205551102		Main	Benjamin Jack
+15205551103	1103	Main	Lucas Oliver
+15205551104		Main	Leo Jackson
+15205551105	1105	Main	Voice messaging
+15205551106		Main	
+15205551107		Main	
+15205551108		Main	
+15205551109		Main	
+15205551110		Main	
	1101	Main	Owen Alexander
	1102	Main	Benjamin Jack
	1104	Main	Leo Jackson

Device Move Tool

There are two variants of the device move tool:

1. For BroadWorks and Webex for BroadWorks migrations, the tool runs on the secondary BroadWorks Application Server within the partner network and connects via OCI-P.
2. For BroadCloud migrations, the tool runs within the Rialto platform. A Service Provider Admin uses the Service Provider portal to submit a move request.

Device Move Tool for BroadCloud

For BroadCloud partners, use the Service Provider portal to submit a migration request for numbers, devices and SCA migrations.

Within the Service Provider portal, a migration request can include up to 50 customers. A maximum of 10 requests can be submitted within a day.

The figures below show the Service Provider portal.



Migration Tools for BroadWorks to Wholesale RTM Migrations



Device Move Tool for BroadWorks and Webex for BroadWorks

The Device Move Tool must run inside the secondary BroadWorks Application Server. This tool uses the Transform Tool output JSON (*customer.json*) file as input and execute the OCI-P commands to migrate the devices and soft clients.

The operations below will execute on a successful device move tool run:

1. De-register the devices from the BWKS and register them into the Wholesale RTM solution.
2. Users with UC-One clients will redirect to the Webex App on the first-time login.
3. Deactivate the Phone Numbers from the BroadWorks and remove the phone numbers from BroadCloud.
4. Activate the numbers in the Wholesale RTM solution.
5. Create a Shared Call Appearances in Wholesale for BroadCloud migrations.

SCP and SSH

1. SCP the device move tool binaries inside the secondary BroadWorks Application Server.
2. SSH to the secondary BroadWorks Application Server to configure the prerequisites and run the device move tool.

Prerequisites

1. Set the REFRESH_TOKEN (*Token copied from the Token Generator Tool*) in the conf/partner.cfg file:

```
REFRESH_TOKEN=MzUwYjljODEtYmQ4MS00NGVhLTgwNGUtZjQ1NTEyZTViNzJkOTdj
```

2. Ensure the secondary BroadWorks Application Server User ID, Password, and Host Name are correct in the conf/deviceMoveTool.conf file:

```
BW_USER_ID = admin
```

```
BW_PASSWORD = admin
```

```
BW_HOST_NAME = localhost
```

3. Modify the JDK/JRE environment path in the devicemove.sh file if the secondary BroadWorks Application Server JDK/JRE environment path is different than the file:

```
JAVA_HOME=/usr/local/java/java_base
```

Polycom Phones

To automatically move Polycom phones from BroadWorks to Wholesale Calling, a partner administrator must create a new Identity/Device Profile Type File at the System level in BroadWorks in **each** Polycom device template. Follow the screenshot in the next page and upload the custom file `device-move-tool/conf/deviceProfile/{region}/polycom_vvx.cfg`. After uploading the new device file, ensure the newly created file exists at the Group level. Also ensure that file migration_%BWMACADDRESS%.cfg does not conflict with any existing file in your system).

Note: ignore file `device-move-tool/conf/deviceProfile/{region}/polycom_vvx2.cfg` that you will find alongside polycom_vvx.cfg. It is used internally by the device move tool.

The migration process for Polycom phones is:

1. The device move tool automatically replaces file %BWMACADDRESS%.cfg at the device level with the file polycom_vvx2.cfg. Note that this file refers to migration_%BWMACADDRESS%.cfg.
2. The device move tool asks the BroadWorks AS to rebuild the device profiles at the group level or device level².
3. The device move tool asks the BroadWorks AS to reboot the phones at the group level or device level.
4. Following the reboot request, Polycom phones download and process %BWMACADDRESS%.cfg, which asks the Polycom phones to download and process migration_%BWMACADDRESS%.cfg, which sets the device.prov.serverName to <https://plcm.sipflash.com>³
5. The Polycom phone downloads %BWMACADDRESS%.cfg from <https://plcm.sipflash.com> and will be managed by the Webex Calling DMS.

² Acting at the group level or device level depends on the configuration of parameter deviceLevelRebuild in file device-move-tool/conf/partner.cfg.

³ <https://plcm.sipflash.com> for the US region, other regions have different URLs.

The screenshot shows a web browser window with the URL `10.94.168.32/Operator/System/DeviceType/Files/Add/index.jsp`. The page is titled "Identity/Device Profile Type File Add" and includes a sidebar with "Options:" and "Identity/Device Profile Type". The main form contains the following fields and options:

- * Device Access File Format: `migration_%BWMACADDRESS%.cfg`
- * Repository File Format: `migration_%BWMACADDRESS%.cfg`
- File Category: ☐ Static ☐ Dynamic Per-Type ☒ Dynamic Per-Device
- File Customization: `Disallow` (dropdown)
- ☐ Allow Upload from Device
- ☐ Default Extended File Capture Mode
- Assign File:
 - ☐ Manual
 - ☒ Custom
- Upload File: `Parcourir...` `polycom_vvx.cfg`
- Currently Using File: (empty text area)
- File Authentication:
 - Authentication Mode: ☒ MAC-Based ☒ User Name and Password
 - MAC Address In: ☒ HTTP Request URI ☐ HTTP Header ☐ Client Certificate
 - MAC Address Format: (empty text field)
 - Device Access HTTP Authentication: ☒ Basic ☐ Digest
 - Allowed Access Protocols: ☒ http ☒ https ☒ ttp

Note: For the field "MAC address in:", use the same values as the other files in your Polycom template. (In the screenshot, we use HTTP request URI, but this may not be appropriate for the partner's BroadWorks AS deployment.)

Instructions to Run

Run the command below in the secondary BroadWorks Application Server inside the device move tool directory:

For device move single customer:

```
./devicemove.sh -input=<Transform-Tool-Output-Customer-JSON-File-Path>
```

For device move multiple customers:

```
./devicemove.sh -input=<Transform-Tool-Timestamp-Output-Directory-Path>
```

Terminal Logs

We will get the following logs in the terminal on successful running the device move tool for device migration:

Migration Tools for BroadWorks to Wholesale RTM Migrations

Tool Name: Device Move Tool

Version: 1.15.0

Device Tool Started...

Valid Devices for migration :

Device Type	Mac	Version	Email
DMS Cisco 7861	CC98914EAAD7	Cisco-CP-7861-3PCC/11.3.7_cc98914eaa7_	amawarwanvel+benjaminjack@gmail.com
DMS Cisco 6821	5486BCAE7E45	Cisco-CP-6821-3PCC/11.3.7_5486bcae7e45_	amawarwanvel+lucsoliver@gmail.com
DMS Cisco 8811	F87B204E4066	Cisco-CP-8811-3PCC/11.3.7_f87b204e4066_	amawarwanvel+owenalex@gmail.com

Do you want to migrate all these devices? ([Y]es or [N]o)

yes

Uploading Device Profiles for DMS Cisco MPP LC

Rebuild Device Process Started

Rebuild Device Process Completed Successfully

Reboot Process Started

Reboot Process Completed Successfully

Modifying profiles for Business Communicator under group collabmigrationtestGRP_engg

Activate webex phone numbers process started for customer org id : 85ea1d6f-ff9e-41a1-843f-7362aaf12b4c

Activate webex phone numbers process completed for customer org id : 85ea1d6f-ff9e-41a1-843f-7362aaf12b4c

Deactivate broadworks phone numbers process started for groupid : collabmigrationtestGRP_engg

Deactivate broadworks phone numbers process completed for groupid : collabmigrationtestGRP_engg

Device Migration Completed

Output

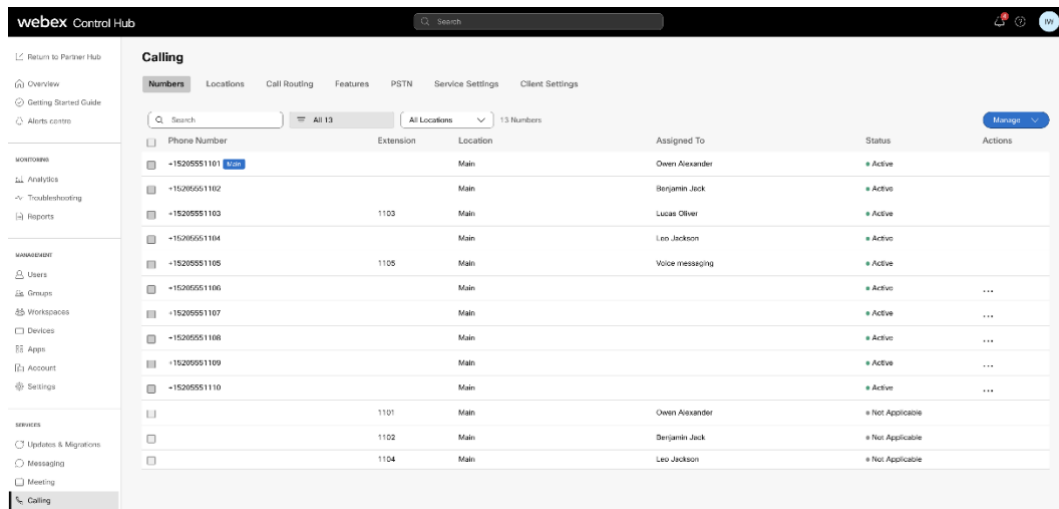
After the device migration, devices are come online and ready to make/receive calls. Refer to the following illustration to see if the device status is online:

The screenshot shows the Webex Control Hub interface. The left sidebar contains navigation options like 'Return to Partner Hub', 'Overview', 'Getting Started Guide', 'Alerts centre', 'MONITORING', 'MANAGEMENT', and 'Devices'. The main content area is titled 'Devices' and shows a summary of 3 devices in total, all online. Below this, a table lists the devices with columns for Type, Product, Status, and Belongs to. The table shows three devices: two Cisco 7861 phones and one Cisco 8811 phone, all with a status of 'Online' and assigned to Benjamin Jack, Lucas Oliver, and Owen Alexander respectively.

Type	Product	Status	Belongs to
Phones	Cisco 7861	Online	Benjamin Jack
Phones	Cisco 6821	Online	Lucas Oliver
Phones	Cisco 8811	Online	Owen Alexander

Migration Tools for BroadWorks to Wholesale RTM Migrations

After the device migration, numbers are come active. Refer to the following illustration to see if the numbers are active:



The screenshot shows the Webex Control Hub interface. The 'Calling' section is active, displaying a table of phone numbers. The table has columns for Phone Number, Extension, Location, Assigned To, Status, and Actions. The status of the numbers is 'Active'.

Phone Number	Extension	Location	Assigned To	Status	Actions
+15205551101		Main	Owen Alexander	Active	
+15205551102		Main	Benjamin Jack	Active	
+15205551103	1103	Main	Lucas Oliver	Active	
+15205551104		Main	Leo Jackson	Active	
+15205551105	1105	Main	Voice messaging	Active	
+15205551106		Main		Active	...
+15205551107		Main		Active	...
+15205551108		Main		Active	...
+15205551109		Main		Active	...
+15205551110		Main		Active	...
	1101	Main	Owen Alexander	Not Applicable	
	1102	Main	Benjamin Jack	Not Applicable	
	1104	Main	Leo Jackson	Not Applicable	

Activate Phone Numbers through Control Hub

If the partner administrators don't have devices to move from BroadWorks to Wholesale, then no need to run the device move tool. Partner administrators can use the public link below to activate the phone numbers directly through the Control Hub portal.

<https://help.webex.com/en-us/article/wkj3f0/Manage-phone-numbers-in-Control-Hub>

Note: Deactivating the phone numbers in BroadWorks is optional if the partner administrators activate their phone numbers through Control Hub.

Non-Supported Devices

If the customer uses the unsupported devices by the Wholesale RTM solution, then those devices are not eligible for migration. In this case, you have the following options:

1. Provision new phones on BroadWorks before you migrate.
2. Leave the old phones in BroadWorks, and users must install the Webex App to make and receive calls.

Post Migration

The post-migration impacts are as follows:

Administrators Impact

After the migration, administrators must:

- Begin using Partner Hub and Control Hub to configure features rather than CommPilot.

- Reconfigure any features that are not part of the migration.
- Learn the Webex Calling dial plan. Note that Dial plans and access codes are not configurable.

Users Impact

The migration process has a minimal impact on users. Supported features should work post-migration the same that they worked before the migration. For any non-supported, the administrator should reconfigure them on Webex after the migration to ensure that there is no impact on users.:

- Users will lose their call history and message history after the migration.
- Users will lose all personal key-line settings and customizations (for example, speed dials). Users must reconfigure these settings after the migration.
- Users must reset their access codes and passwords at first login.
- Users who use the UC-One client are required at first login to upgrade to the Webex App.
- Users who do not have a calling client are required to download and install the Webex App.

Revert Migration

The Device Move Tool, Webex Calling CPE Team, and the Partner administrator are involved during a revert operation. The revert operation must execute for one enterprise at a time.

Revert Migration – BroadWorks and Webex for BroadWorks

The revert process for BroadWorks and Webex for BroadWorks is as follows:

1. Open a ticket with Cisco TAC to request a device revert
2. Run the Device Move Tool on revert mode inside the secondary BroadWorks Application Server to revert the device migrations.
 - a. Device Move Tool set DMS URL back to the service provider DMS URL in device profiles in BroadWorks.
 - b. It activates the Numbers back in BroadWorks.
3. The Webex Calling Team sets the DMS URL back to the service provider DMS URL in device profiles in Wholesale RTM solution.
4. Partner administrators must inactive/delete the phone numbers in the Wholesale RTM solution through the CH portal.
5. Partner administrators must move PSTN phone numbers back to BroadWorks.

Instructions to run Device Move Tool in Revert Mode

Follow the steps below to run the Device Move Tool in revert mode:

Run the command below in the secondary BroadWorks Application Server inside the device move tool directory:

Migration Tools for BroadWorks to Wholesale RTM Migrations

Revert Profiles

```
./devicemove.sh -input= <Transform-Tool-Output-Customer-JSON-File-Path> -revertProfiles
```

Revert Numbers

```
./devicemove.sh -input= <Transform-Tool-Output-Customer-JSON-File-Path> -revertNumbers
```

Terminal Logs

We will get the following logs in the terminal on successful running the device move tool for revert operation:

Revert Profiles

Tool Name: Device Move Tool

Version: 1.15.0

Device Tool Started for Revert Process...

Devices that can be moved back from Webex Calling to BroadWorks:

Device Type	Mac	Version	Email
DMS Cisco 7861	CC98914EAAD7	Cisco-CP-7861-3PCC/11.3.7_cc98914ead7_	amareswaranvel+benjaminjack@gmail.com
DMS Cisco 6821	5486BCAE7E45	Cisco-CP-6821-3PCC/11.3.7_5486bcae7e45_	amareswaranvel+lucasoliver@gmail.com
DMS Cisco 8811	F87B204E4066	Cisco-CP-8811-3PCC/11.3.7_f87b204e4066_	amareswaranvel+owenalex@gmail.com

Do you want to move back these devices from Webex Calling to BroadWorks? (Yes, Y, No, N):

yes

Uploading Device Profiles for DMS Cisco MPP LC

Rebuild Device Process Started

Rebuild Device Process Completed Successfully

Reboot Process Started

Reboot Process Completed Successfully

Device Migration Completed for Deprovision Process

Revert Numbers

Tool Name: Device Move Tool

Version: 1.15.0

Do you want to continue reverting numbers to Broadworks ? ([Y]es or [N]o):

Y

[+15205551101, +15205551102, +15205551103, +15205551104, +15205551105, +15205551106, +15205551107, +15205551108, +15205551109, +15205551110]

Starting revert

Activate broadworks phone numbers process started for groupId : collabmigrationtestGRP_engg

Activate broadworks phone numbers process completed for groupId : collabmigrationtestGRP_engg

Device Migration Revert process Completed Successfully

Revert Migration – BroadCloud Carrier

The revert process for BroadCloud partners is as follows:

1. Open a ticket with Cisco TAC to request a device revert
2. Run the Device Move Tool on revert mode:
 - a. Phone numbers will be unassigned from Webex Calling, leaving users and services with extensions only.
 - b. Email addresses in Webex Calling will be reverted to temporary email addresses.
 - c. Phones will be deleted from Webex Calling
 - d. Phone numbers, email addresses used as alternatedIds, and phones will be recreated in BroadCloud
 - e. Phones will be rebooted
3. Partner administrators must move PSTN phone numbers back to BroadCloud Carrier.

Technical limitations

1. Device Move Tool does not inactivate the numbers in the Wholesale Calling due to technical limitations during the revert operation.