



VOSS-4-UC
Licensing and Subscriber Data Export
Guide

Release 20.1.1 **Early Field Trial**

Jan 28, 2021

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Important:

- All changes in version 3.0.2 of the License Super Patch are automatically included in release 20.1.1. Therefore, the License Super Patch is not required for platforms on release 20.1.1. Refer to the *What's New* section for details on these features.

Also see: [Patch Update to Latest Release](#) for more details.

- For all releases before the 19.x series, there is a known, pre-existing issue where License audit files are not generated when a scheduled License audit overlaps with a scheduled subscriber data extract (SDE).

To avoid this issue in this release, ensure that you have non-overlapping license audit and SDE schedules. You can modify the schedule of your SDE (see: [Scheduling](#)), but if you wish to modify the License audit default schedule from 3AM UTC, please contact VOSS support.

1 What's New

1.1. Licensing and Subscriber Data Export Guide: Release 20.1.1

- EKB-5146: Manual runs of license audit do not complete (without screen session). See: [Schedule Details](#)
- EKB-5146: Manual runs of license audit do not complete (without screen session). See: [Data Export Overview](#)
- EKB-5146: Manual runs of license audit do not complete (without screen session). See: [Subscriber Data Export Command](#)
- EKB-5431: Set the device limit to 10 for a licensed user. See: [Detail License Customer Aggregate Data Export](#)
- EKB-5431: Set the device limit to 10 for a licensed user. See: [License Anonymous Customer Aggregate Data Export](#)
- EKB-5454: Include patch and adaptation log in license audit zip file. See: [File Details](#)
- EKB-5475: Update SDE to run off secondary unified nodes. See: [Subscriber Data Export Command](#)
- VOSS-670: Small Enhancements 20.1.1 (EKB-5322: License audit report software version header updates) . See: [Detail License Customer Aggregate Data Export](#)
- VOSS-670: Small Enhancements 20.1.1 (EKB-5322: License audit report software version header updates) . See: [License Anonymous Customer Aggregate Data Export](#)
- VOSS-724: Upgrade Robustness and Improvements 20.1.1 (EKB-5299: Make run of upgrade commands in screen mandatory) . See: [Using the screen command](#)

2 Licensing

2.1. License Data Export Overview

- Why this is needed:

This capability provides the means to collect the appropriate audit data to track VOSS license usage in the system each month. This is required to ensure the billing is aligned with the license usage in the system according to our contract. It is needed on all production systems - CUCDM 8.x/11.x and/or VOSS-4-UC.

- This provides two views of the data:

- Data to be provided to VOSS - this is aggregated counts and other data required for billing. It does not collect any identifying data of users or customers on the system. This is the data that needs to be provided to VOSS for billing.
- Local view for the partner - this is a similar view of the data but includes identifying information about the customers to help you better understand the data in terms of your customer base. No user data is collected however. It is the partner's discretion to share this data with VOSS.
- Raw JSON files containing the data that is used when processing into the CSV files. These are typically used by VOSS to view the raw data in the event of anomalies in the CSV files.

Note that only data at Customer and Site levels will be collected.

Important: Webex Teams license usage counts are not automatically updated in VOSS-4-UC after license assignments, in other words, after assigning a subscriber with Webex Teams service(s). It is recommended that you create a schedule to periodically sync Webex Teams user licenses.

See the `SyncSparkRolesLicenses<customer_name>` Data Sync instance reference below.

Webex Teams user license sync be carried out manually on:

- Administration interface:
 - From the **Services** menu, sync the Webex Teams Users for the customer by clicking **Action > Sync Webex Teams Roles Licenses** on the **Customer Access** form.
 - From **Administration Tools > Data Sync**, run the `SyncSparkRolesLicenses<customer_name>` instance.
- Business Admin Portal: On the Webex Teams Quick Actions card at the customer hierarchy, select the **Sync Licenses** link.

The data is correlated and written to a file locally on the system on a schedule at the end of each month and provides an aggregated snapshot of the services that are consumed in the system in terms of VOSS license

definitions. On the billing anniversary determined by your contract (monthly, quarterly, etc) the files required by VOSS need to be collected and provided. This can be done by the partner or via VOSS support if access is available from the partner. The files are retained on the system for 2 years and the system will remove files older than 2 years automatically when new files are generated.

The customer hierarchy node has a new setting **Public Sector** that enables you to flag a customer as Public Sector for the purposes of licensing - in the event the contract includes public sector licenses. The setting should be checked for any customers that are consuming public sector licenses to ensure accurate billing. It can be modified on any existing customers or set for new customers as required.

2.2. Schedule Details

The system runs an internal schedule to generate monthly license reports. The schedule is configured to run at 3AM UTC on the first day of the month. The schedule cannot be disabled nor can the date be changed from the CLI. The time can however be changed. Please contact your VOSS account manager if a schedule time change is required, so that this can be done via support.

2.2.1. Manual Command Execution

In the event a manual run of the process is required (ad hoc data, or schedule failure), the commands can be run via the VOSS CLI.

Important: Since a data export can take time, the **voss subscriber_data_export** and **voss export** commands can only be run in a `screen` session. First run **screen** and then **voss export** and its parameters. See: [Using the screen command](#).

voss export type license_initial_audit

Expected output example:

```
platform@VOSS:~$ voss export type license_initial_audit
Starting license_initial_audit export, please wait...
Completed license_initial_audit export, created license_2019-09-30_0914.zip,
license_detailed_customer_aggregate_2019-09-30_0914.csv.
```

voss export group license

Expected output example:

```
platform@VOSS:~$ voss export group license
Starting license_group export consisting of license_initial_audit, please wait...
Starting license_initial_audit export, please wait...
Completed license_initial_audit export, created license_2019-09-30_0910.zip,
license_detailed_customer_aggregate_2019-09-30_0910.csv.
Completed license_group export.
```

2.3. Single Licensing Update Patch

2.3.1. Patch Update to Latest Release

From Version 2.3.0 of the License Audit tool, a single patch is available to install all the latest changes to any releases from CUCDM 11.5.1 SU1 / VOSS-4-UC 17.4 onwards.

Important:

- All changes in version 3.0.2 of the License Super Patch are automatically included in release 20.1.1. Therefore, the License Super Patch is not required for platforms on release 20.1.1.
- For all releases before the 19.x series, there is a known, pre-existing issue where License audit files are not generated when a scheduled License audit overlaps with a scheduled subscriber data extract (SDE).

To avoid this issue in this release, ensure that you have non-overlapping license audit and SDE schedules. You can modify the schedule of your SDE (see: [Scheduling](#)), but if you wish to modify the License audit default schedule from 3AM UTC, please contact VOSS support.

The patch is available here:

- **Server Name:** `secure.voss-solutions.com`
- **Path:** `/software/patches/license-audit/`
- **Patch Directory:** `License-Super-Patch-3.0.2`
- **Patch File:** `License-Super-Patch-3.0.2_patch.script`

Supported Releases and Dependency Requirements

The super patch is compatible with CUCDM 11.5.1 SU1 / VOSS-4-UC 17.4 platform versions and later. For each release version, there may be a dependency on or more additional patches. Where possible, the super patch automatically installs missing dependencies. Otherwise, the installation fails with an error message instructing the platform administrator to install the missing dependencies. The table below provides dependency details for various release versions.

Release	Patch Dependencies	Action on Missing Dependencies
VOSS-4-UC 19.1.1 and later	No Dependencies	Not Applicable
VOSS-4-UC 18.1	<ul style="list-style-type: none"> • VOSS-4-UC 18.1 Bundle 03 or later 18.1-V4UC-Patch-Bundle-03/b or • Licensing Version 2 (Provider) VOSSUC-225_PROVIDER_18.1_bundled or • Licensing Version 2 (Enterprise) VOSSUC-225_ENTERPRISE_18.1_bundled 	Install VOSS-4-UC 18.1 Bundle 3b or later first
CUCDM 11.5.3	<ul style="list-style-type: none"> • Licensing Version 2 VOSSUC-225_CUCDM_11.5.3_bundled 	Install CUCDM 11.5.3 Patch Bundle 1 or later first
CUCDM 11.5.2 VOSS-4-UC 17.6	<ul style="list-style-type: none"> • Licensing Version 1 VOSSUC15663-11.5.2 VOSS-46-11.5.2 VOSSUC-20323_11.5.2 	Dependencies automatically installed
CUCDM 11.5.1 SU1 VOSS-4-UC 17.4	<ul style="list-style-type: none"> • Licensing Version 1 VOSSUC15663-11.5.1SU1 VOSS46-11.5.1SU1 VOSSUC-20323_11.5.1su1 	Dependencies automatically installed

Caveats

1. For CUCDM 11.5.1 SU1, CUCDM 11.5.2, VOSS-4-UC 17.4, and VOSS-4-UC 17.6, the patch does not support the internal platform schedule that automatically executes the license audit at the start of every month.

Workaround: A standard platform CLI schedule must be used.

2. The inclusion of Subscriber Data Extracts is a side effect of the underlying implementation dependencies.

The version number specified in the patch relates to the version number of the license audit reports and is not influenced by changes in Subscriber Data Extracts capabilities.

Change Log

For the current release, refer to the *What's New* section for details on these features.

Version	Release(s)	Content
3.0.1	19.3.2	<ul style="list-style-type: none"> No changes were made to the licensing code itself, but the CLI output of the license super patch was made more descriptive
3.0.0	19.3.1	<ul style="list-style-type: none"> The VOSS license audit logic now considers a phone assigned to a user if that device has been setup as an associatedDevice on the user OR phone ownerID Alternate ways were added to automate the collection of the VOSS license files: <ul style="list-style-type: none"> SFTP: Send the file to a remote SFTP server Email: Email the file to an email destination (requires SMTP server access) HTTP: Send the license file(s) to an HTTP server File Download via the Portal: Local download via the VOSS-4-UC GUI In the event that the file is not sent for any reason (incorrect configuration, permissions issue, etc. . .), an alert is created in the Admin GUI which in turn results in an SNMP trap being created The license output filename format changed to include provider and hostname - this adds support for a single partner/customer that may have multiple platforms The new filename format: <ul style="list-style-type: none"> “vlf_<provider_name>_<host_name>_license_<YYYY-MM-DD_HHMM>.zip” (containing anonymous data) “vlf_<provider_name>_<host_name>_detailed_<YYYY-MM-DD_HHMM>.csv” (containing detailed information) Additional headers were added to the output files for platform identification and version: <ul style="list-style-type: none"> Platform ID (generated by the system and is unique) Hostname of the system Provider on the system Software Version Deployment Mode
2.3.0	19.1.2	<ul style="list-style-type: none"> First version to be delivered via a super patch that is compatible with CUCDM 11.5.1 SU1 / VOSS-4-UC 17.4 and later Alignment with CUCM licensing rules, including: <ul style="list-style-type: none"> Exclusion of CTI Ports from license counts Spark Remote Device type only consuming a license when it is a subscriber's only device Addition of a Site Count column to report the number of sites per customer
2.0.0	11.5.3 18.1	<ul style="list-style-type: none"> The expanded ability to audit in terms of VOSS-4-UC added capabilities, such as Webex Teams (aka Spark) and Contact Center Built in schedule to execute at the end of the month automatically. Schedule cannot be edited by customer to avoid conflict. This replaces any schedule that would have been setup under v1 and that schedule should be removed to avoid duplication, etc. Public sector setting on customer Notifications when the scheduled run of the audit fails for some reason - CLI, email, SNMP.
1.0.0	11.5.3 18.1	<ul style="list-style-type: none"> The ability to audit the existing deployment in terms of CUCDM functionality and licenses. A schedule can be created to execute it on a monthly basis (similar to the Subscriber Data Extract in general). This is a visible and customer configurable schedule.
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2.4. Report Files

2.4.1. File Details

Whether generated via the schedule or via the voss export command in the CLI, the successful execution results in a set of files in the directory `media/data_export/license`.

The files are retained on the system for 2 years and the system will remove files older than 2 years automatically when new files are generated. The data is also stored locally in the database in the event of any issues with the files.

The details of the files created are:

1. A CSV report file for partner reference that includes the customer details. This file is not required by VOSS and is for the partner's internal use and view of the data.

Filename format: `vlf_<provider_name>_<host_name>_detailed_<YYYY-MM-DD_HHMM>.csv`

2. A ZIP file to be sent to VOSS for billing purposes. The filename is:

`vlf_<provider_name>_<host_name>_license_<YYYY-MM-DD_HHMM>.zip`

The ZIP file contains a directory with contents as below.

directory: `<YYYY-MM-DD_HHMM>_license`

- a. A license JSON file. Filename format: `vlf_<provider_name>_<host_name>_license_<YYYY-MM-DD_HHMM>.json`.

- metadata attributes and values:

- `"datetime": "<timestamp>"`
- `"export_identifier": "<UUID>"`
- `"pipeline_type_name": "license_initial_audit".`

- a list of individual JSON objects if they contain data, for example:

- License Subscriber Profile Data Export
- License Standalone Phone Data Export
- License Standalone WebEx Data Export
- License Standalone Voicemail Data Export
- License Contact Center Data Export
- License Spark Hybrid Data Export

If you need more details about the JSON file formats, contact VOSS.

- b. Patch and adaptation JSON log files. Format:

`vlf_<provider_name>_<host_name>_patch_<YYYY-MM-DD_HHMM>.json`

and

`vlf_<provider_name>_<host_name>_adaptation_log_<YYYY-MM-DD_HHMM>.json`

These files contain data on any patches applied and adaptations installed to the system.

- The `patch_log` file contains patch and patch bundle names and descriptions, as shown on the Admin Portal **About > Extended Version**.
- The `adaptation_log` file contains installed adaptation names and descriptions, as shown on the Admin Portal **About > Adaptation Status**.

If no patches or adaptations are applied, the JSON file data is empty, in other words the file contents show as:

```
{
  "meta": {},
  "resources": []
}
```

- c. A CSV report file that is Customer anonymous, in other words, no identifying information such as Provider, Reseller, or Customer columns and no friendly hierarchy path names.

Filename format: `vlf_<provider_name>_<host_name>_anonymous_<YYYY-MM-DD_HHMM>.csv`.

For detailed view of the file format and contents, see: [License Anonymous Customer Aggregate Data Export](#).

- d. Hash files (`<filename>.hash`) of the JSON and CSV files, used to verify the integrity of the files.

Filename formats:

- `vlf_<provider_name>_<host_name>_license_<YYYY-MM-DD_HHMM>.json.hash`
- `vlf_<provider_name>_<host_name>_anonymous_<YYYY-MM-DD_HHMM>.csv.hash`
- `vlf_<provider_name>_<host_name>_patch_<YYYY-MM-DD_HHMM>.json.hash`
- `vlf_<provider_name>_<host_name>_adaptation_log_<YYYY-MM-DD_HHMM>.json.hash`

2.4.2. File Collection

In order to view the generated files or collect them to submit to VOSS on your billing anniversary, the following process can be used to collect the files generated.

- Connect to the primary node IP using SCP or SFTP on port 22.
- The extracts will be located in the `media/data_export/license/` directory.
- Collect the appropriate file(s):
 - For submission to VOSS, this should include the ZIP files (details in the File Details section above) for each month required for the billing cycle (e.g 3 months for a quarterly cycle).
 - The customer version of the file to view offline

Viewing the Customer file

Once the file is retrieved from the VOSS system, it can be viewed offline using the CSV file viewer of choice (e.g Microsoft Excel).

2.4.3. Troubleshooting and Error Handling

After the monthly schedule is run, a check is carried out for the generated report. If the report was generated successfully, no messages are sent and no notifications are generated. For v2.0 of the feature, if the report was not generated successfully, a number of notification methods are available:

- CLI login or health check

A message shows on the CLI console when logging in or when typing the **health** command:

```
LICENSE REPORT: FAILED - Please run 'voss export type
license_initial_audit'
```

This message will continue to show until the report is generated successfully by running the command shown in the message.

- Email Notification

If email notification is configured, a notification is also sent to the configured address after the check fails. Refer to the **notify emailrelay** and **notify add** commands in the Platform Guide. (For example, `notify add error mailto:sysadmin@mycompany.com`)

The message contains:

```
ERROR: License file generation failed
The license audit report scheduled for <month> <year> was not successful.
Please contact your VOSS account manager.
```

- SNMP Trap

If SNMP is configured, a SNMP trap will be sent upon failure. An example SNMP trap that is generated when the report fails to run is show below - <month> <year> are variables in the example:

```
May 23 02:01:00 robot-slave snmptrapd[18891]: 2018-05-23 02:01:00 <UNKNOWN>
[UDP: [192.168.100.3]:11814->[192.168.100.25]:162]:
#012iso.3.6.1.2.1.1.3.0 = Timeticks: (207758) 0:34:37.58
#011iso.3.6.1.6.3.1.1.4.1.0 = OID: iso.3.6.1.2.1.88.2.0.1
#011iso.3.6.1.2.1.88.2.1.1.0 = STRING:
"ERROR: License file generation failed"
#011iso.3.6.1.2.1.88.2.1.3.0 = STRING:
"The license audit report scheduled for <month> <year> was not successful.
#012Please contact your VOSS account manager. "
#011iso.3.6.1.2.1.88.2.1.5.0 = INTEGER: 1
#011iso.3.6.1.2.1.1.5.0 = STRING: "VOSS"
```

- Action on failure

In the case of a schedule failure, you should attempt to run the license audit by logging into the VOSS CLI and running the commands as detailed in the section Manual Command Execution above. If it continues to fail, then please raise a VOSS support ticket and contact your VOSS Account Manager or Global Services representative. If left to not run, this can lead to billing issues at reconciliation time, so it is best to ensure that it is running regularly as expected and address issues when it is not.

2.5. Data Export Types

2.5.1. Detail License Customer Aggregate Data Export

This is the partner view of the data that includes customer details for better understanding.

Filename: vlf_<provider_name>_<host_name>_detailed_<YYYY-MM-DD_HHMM>.csv

Metadata: header rows showing the date time stamp and version, prefixed by a #, for example:

```
#Platform ID=507f1f77bcf86cd799439011
#hostname=atlantic
#Provider Name=Varidion
#Date Time=2020-05-13 08:09
#Software Version=20.1.1.4646
#Platform Version=20.1.1-1587566416
#Deployment Mode=Provider with HCMF
#Audit Version=3.0.2
```

Note: For licensing:

- CTI Ports are *not counted* as user or standalone phones.
- Cisco Spark Remote Devices are *only* counted if a subscriber has no other phones. If a subscriber has more than one Cisco Spark Remote Device, this is counted as a single device.
- If a user has more than 10 devices associated to them (via associated devices or ownerid on the phone) then for each increment of 10, an additional license is counted.

For example:

- a user with 5 phones assigned = 1 license and *not* added to *Users With More Than 10 Phones* list.
- a user with 15 phones assigned = 2 licenses and added to *Users With More Than 10 Phones* list.
- a user with 30 phones assigned = 3 licenses and added to *Users With More Than 10 Phones* list.

DEVICE/SERVICE	DESCRIPTION	DATA TYPE
Provider	Provider hierarchy name on the system.	string
Reseller	Reseller hierarchy name on the system.	string
Customer	Customer hierarchy name on the system.	string
Customer PKID	Customer hierarchy pkid on the system.	string
One Phone (No VM & No WebEx & No Spark)	Number of Subscribers at the site level with one device (Hard or Soft Phone) but <i>without</i> VM, WebEx or Spark (Webex Teams) Services. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
One Phone & Spark (No VM & No WebEx)	Number of Subscribers at the site level with one device (Hard or Soft Phone) <i>and</i> Spark (Webex Teams) service but <i>without</i> VM or WebEx Services. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
One Phone & VM (No WebEx)	Number of Subscribers at the site level with one device (Hard or Soft Phone) <i>and</i> VM but <i>without</i> WebEx Services. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
One Phone & WebEx	Number of Subscribers at the site level with one device (Hard or Soft Phone) <i>and</i> WebEx. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
Multiple Phones	Number of Subscribers at the site level with more than one device (Hard or Soft Phone). A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
Users With More Than 10 Phones	Number of Subscribers at the site level with more than 10 devices (Hard or Soft Phone). A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
UCM User (No Phone & No EM & No VM & No WebEx & No SNR & No Spark)	Number of Subscribers at the site level <i>without</i> any services and without an Extension Mobility Profile.	integer
SNR (No Phone & No EM & No VM & No WebEx & No Spark)	Number of Subscribers at the site level that only have the SNR service enabled.	integer
VM (No Phone & No EM & No WebEx)	Number of Subscribers at the site level that only have the VM service enabled.	integer
WebEx (No Phone & No EM)	Number of Subscribers at the site level that only have the WebEx service enabled.	integer
Spark (No Phone & No EM & No SNR & No VM & No WebEx)	Number of Subscribers at the site level that only have the Spark (Webex Teams) service enabled.	integer

DEVICE/SERVICE	DESCRIPTION	DATA TYPE
EM & Spark (No Phone & No VM & No WebEx)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> Spark (Webex Teams) service but <i>without</i> VM or WebEx Services.	integer
EM (No Phone & No SNR & No VM & No WebEx & No Spark)	Number of Subscribers at the site level with an Extension Mobility profile but <i>without</i> any device or services.	integer
EM & SNR (No Phone & No VM & No WebEx & No Spark)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> Remote Destination Profile but <i>without</i> devices or services.	integer
EM & VM (No Phone & No WebEx)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> VM but <i>without</i> devices or WebEx service.	integer
EM & WebEx (No Phone)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> WebEx service but <i>without</i> devices.	integer
Standalone Phones (No UCM User)	Number of phones at the site level in the system that are <i>not</i> assigned to a Subscriber. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to a user.	integer
Standalone WebEx (No UCM User)	Number of standalone WebEx accounts at the site level in the system (no corresponding UCM user).	integer
Standalone Voicemail (No UCM User)	Number of VM only accounts at the site level in the system (no corresponding UCM user).	integer
Contact Center Enterprise	Number of Contact Center Enterprise users at the site level in the system (UCCE).	integer
Contact Center Express	Number of Contact Center Express users at the site level in the system (UCCX).	integer
Standalone Spark (No UCM User)	Number of standalone Spark (Webex Teams) users in the system at any level. This means a Spark (Webex Teams) user without a corresponding UCM user.	integer
Public Sector	Flag that indicates if the Customer has been flagged as a public sector customer.	boolean
Standalone Analog Ports (No UCM User)	Number of <i>Analog</i> phones at the site level in the system that are <i>not</i> assigned to a Subscriber.	integer
Standard Users with Spark	Number of Subscribers with multiple devices, other services (e.g VM and/or WebEx) <i>and</i> Spark (Webex Teams) service.	integer
Site Count	Number of Sites under the Customer.	integer

- UCM: Unified Communications Manager
- UCCX: Unified Contact Center Express
- UCCE: Unified Contact Center Enterprise
- EM: Extension Mobility profile
- VM: Voicemail
- SNR: Single Number Reach

- **Public Sector:** boolean flag on Customer to indicate public sector customer. Can be set with an API call or on the GUI Customer form.

Example:

```
#Platform ID=507f1f77bcf86cd799439011
#hostname=atlantic
#Provider Name=Varidion
#Date Time=2020-05-13 08:09
#Software Version=20.1.1.4646
#Platform Version=20.1.1-1587566416
#Deployment Mode=Provider with HCMF
#Audit Version=3.0.2
Provider, Reseller, Customer, Customer PKID, One Phone & Spark (No VM & No WebEx), One
↳ Phone (No VM & No WebEx & No Spark), One Phone & VM (No WebEx), One Phone & WebEx,
↳ Multiple Phones, Users With More Than 10 Phones, UCM User (No Phone & No EM & No VM &
↳ No WebEx & No SNR & No Spark), SNR (No Phone & No EM & No VM & No WebEx & No Spark),
↳ VM (No Phone & No EM & No WebEx), WebEx (No Phone & No EM), Spark (No Phone & No EM &
↳ No SNR & No VM & No WebEx), EM & Spark (No Phone & No VM & No WebEx), EM (No Phone &
↳ No SNR & No VM & No WebEx & No Spark), EM & SNR (No Phone & No VM & No WebEx & No
↳ Spark), EM & VM (No Phone & No WebEx), EM & WebEx (No Phone), Standalone Phones (No
↳ UCM User), Standalone WebEx (No UCM User), Standalone Voicemail (No UCM User), Contact
↳ Center Enterprise, Contact Center Express, Standalone Spark (No UCM User), Public
↳ Sector, Standalone Analog Ports (No UCM User), Standard Users with Spark, Site Count
Provider_01, Reseller_01, Customer_01, 5c9b920ba9d1cb66785f5683, 5, 3, 3, 4, 4, 1, 6, 4, 4, 2, 6, 4, 4,
↳ 6, 7, 6, 7, 2, 3, 2, 2, 14, Y, 4, 0, 4
Provider_01, Reseller_01, Customer_02, 5c9b9217a9d1cb66785f56b6, 1, 2, 2, 1, 0, 0, 0, 0, 1, 1, 1, 1,
↳ 2, 1, 3, 5, 1, 1, 1, 0, 8, Y, 2, 0, 8
```

2.5.2. License Anonymous Customer Aggregate Data Export

This is the VOSS version of the report file without identifying customer data.

Filename: vlf_<provider_name>_<host_name>_anonymous_<YYYY-MM-DD_HHMM>.csv **Layout:**

Metadata: header rows showing the date time stamp and version, prefixed by a #, for example:

```
#Platform ID=507f1f77bcf86cd799439011
#hostname=atlantic
#Provider Name=Varidion
#Date Time=2020-05-13 08:09
#Software Version=20.1.1.4646
#Platform Version=20.1.1-1587566416
#Deployment Mode=Provider with HCMF
#Audit Version=3.0.2
```

Note: For licensing:

- CTI Ports are *not counted* as user or standalone phones.
- Cisco Spark Remote Devices are *only* counted if a subscriber has no other phones. They are also *all* counted as a *single device*.
- If a user has more than 10 devices associated to them (via associated devices or ownerid on the phone) then for each increment of 10, an additional license is counted.

For example:

- a user with 5 phones assigned = 1 license and *not* added to *Users With More Than 10 Phones* list.
- a user with 15 phones assigned = 2 licenses and added to *Users With More Than 10 Phones* list.
- a user with 30 phones assigned = 3 licenses and added to *Users With More Than 10 Phones* list.

DEVICE/SERVICE	DESCRIPTION	DATA TYPE
Customer PKID	Customer hierarchy pkid on the system.	string
One Phone (No VM & No WebEx & No Spark)	Number of Subscribers at the site level with one device (Hard or Soft Phone) but <i>without</i> VM, WebEx or Spark (Webex Teams) Services. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
One Phone & Spark (No VM & No WebEx)	Number of Subscribers at the site level with one device (Hard or Soft Phone) <i>and</i> Spark (Webex Teams) service but <i>without</i> VM or WebEx Services. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
One Phone & VM (No WebEx)	Number of Subscribers at the site level with one device (Hard or Soft Phone) <i>and</i> VM but <i>without</i> WebEx Services. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
One Phone & WebEx	Number of Subscribers at the site level with one device (Hard or Soft Phone) <i>and</i> WebEx. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
Multiple Phones	Number of Subscribers at the site level with more than one device (Hard or Soft Phone). A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
Users With More Than 10 Phones	Number of Subscribers at the site level with more than 10 devices (Hard or Soft Phone). A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to the user.	integer
UCM User (No Phone & No EM & No VM & No WebEx & No SNR & No Spark)	Number of Subscribers at the site level <i>without</i> any services and without an Extension Mobility Profile.	integer
SNR (No Phone & No EM & No VM & No WebEx & No Spark)	Number of Subscribers at the site level that only have the SNR service enabled.	integer
VM (No Phone & No EM & No WebEx)	Number of Subscribers at the site level that only have the VM service enabled.	integer
WebEx (No Phone & No EM)	Number of Subscribers at the site level that only have the WebEx service enabled.	integer
Spark - (No Phone & No EM & No SNR & No VM & No WebEx)	Number of Subscribers at the site level that only have the Spark (Webex Teams) service enabled.	integer

DEVICE/SERVICE	DESCRIPTION	DATA TYPE
EM & Spark (No Phone & No VM & No WebEx)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> Spark (Webex Teams) service but <i>without</i> VM or WebEx Services.	integer
EM (No Phone & No SNR & No VM & No WebEx & No Spark)	Number of Subscribers at the site level with an Extension Mobility profile but <i>without</i> any device or services.	integer
EM & SNR (No Phone & No VM & No WebEx & No Spark)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> Remote Destination Profile but <i>without</i> devices or services.	integer
EM & VM (No Phone & No WebEx)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> VM but <i>without</i> devices or WebEx service.	integer
EM & WebEx (No Phone)	Number of Subscribers at the site level with an Extension Mobility profile <i>and</i> WebEx service but <i>without</i> devices.	integer
Standalone Phones (No UCM User)	Number of phones at the site level in the system that are <i>not</i> assigned to a Subscriber. A user's associated devices as well as a phone's ownerUserName are used to determine if a phone belongs to a user.	integer
Standalone WebEx (No UCM User)	Number of standalone WebEx accounts at the site level in the system (no corresponding UCM user).	integer
Standalone Voicemail (No UCM User)	Number of VM only accounts at the site level in the system (no corresponding UCM user).	integer
Contact Center Enterprise	Number of Contact Center Enterprise users at the site level in the system (UCCE).	integer
Contact Center Express	Number of Contact Center Express users at the site level in the system (UCCX).	integer
Standalone Spark (No UCM User)	Number of standalone Spark (Webex Teams) users in the system at any level. This means a Spark (Webex Teams) user without a corresponding UCM user.	integer
Public Sector	Flag that indicates if the Customer has been flagged as a public sector customer.	boolean
Standalone Analog Ports (No UCM User)	Number of <i>Analog</i> phones at the site level in the system that are <i>not</i> assigned to a Subscriber.	integer
Standard Users with Spark	Number of Subscribers with multiple devices, other services (e.g VM and/or WebEx) <i>and</i> Spark (Webex Teams) service.	integer
Site Count	Number of Sites under the Customer.	integer

- UCM: Unified Communications Manager
- UCCX: Unified Contact Center Express
- UCCE: Unified Contact Center Enterprise
- EM: Extension Mobility profile
- VM: Voicemail
- SNR: Single Number Reach

- **Public Sector:** boolean flag on Customer to indicate public sector customer. Can be set with an API call or on the GUI Customer form.

Example:

```
#Platform ID=507f1f77bcf86cd799439011
#hostname=atlantic
#Provider Name=Varidion
#Date Time=2020-05-13 08:09
#Software Version=20.1.1.4646
#Platform Version=20.1.1-1587566416
#Deployment Mode=Provider with HCMF
#Audit Version=3.0.2

Customer PKID,One Phone & Spark (No VM & No WebEx),One Phone (No VM & No WebEx & No_
↳Spark),One Phone & VM (No WebEx),One Phone & WebEx,Multiple Phones,Users With More_
↳Than 10 Phones,UCM User (No Phone & No EM & No VM & No WebEx & No SNR & No Spark),
↳SNR (No Phone & No EM & No VM & No WebEx & No Spark),VM (No Phone & No EM & No_
↳WebEx),WebEx (No Phone & No EM),Spark (No Phone & No EM & No SNR & No VM & No WebEx),
↳EM & Spark (No Phone & No VM & No WebEx),EM (No Phone & No SNR & No VM & No WebEx &_
↳No Spark),EM & SNR (No Phone & No VM & No WebEx & No Spark),EM & VM (No Phone & No_
↳WebEx),EM & WebEx (No Phone),Standalone Phones (No UCM User),Standalone WebEx (No_
↳UCM User),Standalone Voicemail (No UCM User),Contact Center Enterprise,Contact_
↳Center Express,Standalone Spark (No UCM User),Public Sector,Standalone Analog Ports_
↳(No UCM User),Standard Users with Spark,Site Count
5c9b920ba9d1cb66785f5683,5,3,3,4,4,1,6,4,4,2,6,4,4,6,7,6,7,2,3,2,2,14,Y,4,0,4
5c9b9217a9d1cb66785f56b6,1,2,2,1,0,0,0,0,0,1,1,1,1,2,1,3,5,1,1,1,0,8,Y,2,0,8
```

2.6. Distributing Licensing Reports

2.6.1. Licensing Destinations and Formats

Note: This topic only covers the Admin Portal interface available for licensing export. For further details and for licensing export using platform CLI commands, refer to the Licensing and Subscriber Data Export Guide.

VOSS-4-UC provides the means to collect the audit data to track VOSS license usage in the system each month. This is required to ensure the billing is aligned with the license usage in the system according to our contract.

A schedule is configured to collect the data and save the output to the platform filesystem at 3AM UTC on the first day of the month, but the platform CLI also has commands to run the data collection manually. For details, refer to the Licensing and Subscriber Data Export Guide.

Configure License Delivery

System administrators with the required permissions (default is sysadmin) have the option from the **Licensing** menu to configure the delivery of the audit data by means of one or more of the following delivery methods and combine them into one or more **File Transfer Destinations**. These destinations can then be used to transfer the audit data.

The delivery method configuration can be accessed from the menus:

- **Email Destinations**

- Requires an SMTP server configured on the **SMTP Server** menu. (*SMTP Server*)
- Destination name, SMTP server, sender, addressee and email subject are mandatory.
- Options can be input for email addressees, otherwise the addressee is the sender.

- **File Destinations**

- Allows for data files to be stored in the database and downloaded via the **Audit Report Files** menu.
- A mandatory **Name** at either the `sys` hierarchy level or provider hierarchy level is added to define the file destination.
- If this destination is used, as an instance of the **File Transfer Destinations**, the **Audit Report Files** menu shows the list of data files at the specified hierarchy level. Files on the system starting with `vlf` are listed here.

Note: If needed, the files can be deleted from the list, but this action does not remove files saved to the file system.

To download the files, choose **Export > JSON** from the menu bar. The export will be a `.zip` file with a `FILES` directory containing all the files selected in the list view.

- **HTTP Destinations**

- Destination name, hostname, HTTP method and URL endpoint must be provided.
- Options are available for user credentials, port, a secure connection and a client certificate.

- **SFTP Destinations**

- Destination name, hostname and username is mandatory
- Options are available for port, user password and destination directory

When the required methods have been configured, the scheduled audit data collection can also deliver the data files by these methods.

Workflow steps:

1. Set up one or more delivery method destinations listed above.
2. Combine configured delivery method destinations into one or more file transfer destinations (**File Transfer Destinations** menu).
3. On the **Settings** menu:
 - Configure one or more settings instances that combines a file transfer destination and a file format and save the settings.
 - The **File format** options correspond with the available audit report file types.

For details on the format and contents, refer to the Licensing and Subscriber Data Export Guide.

- Anonymous CSV (file format: `vlf_<provider_name>_<host_name>_anonymous_<YYYY-MM-DD_HHMM>.csv`)
- Anonymous ZIP (file format: `vlf_<provider_name>_<host_name>_license_<YYYY-MM-DD_HHMM>.zip`)

Contains `<YYYY-MM-DD_HHMM>_license` directory with files of format:

- * vlf_<provider_name>_<host_name>_anonymous_<YYYY-MM-DD_HHMM>.csv
 - * vlf_<provider_name>_<host_name>_license_<YYYY-MM-DD_HHMM>.json
 - * vlf_<provider_name>_<host_name>_anonymous_<YYYY-MM-DD_HHMM>.csv.hash
 - * vlf_<provider_name>_<host_name>_license_<YYYY-MM-DD_HHMM>.json.hash
- Detailed CSV (**file format:** vlf_<provider_name>_<host_name>_detailed_<YYYY-MM-DD_HHMM>.csv)
- More than one combination of destination and file format can be set up if needed.
 - An option is available to test the delivery of sample dummy data from an instance of the settings, in other words, delivery to the configured destinations.
4. At the scheduled collection date of the system or when the command is run manually on the platform CLI, the files are then:
- saved to the platform filesystem (see Licensing and Subscriber Data Export Guide)
 - transferred to destinations and with methods according to the configured **Settings** combination(s) of: file transfer destination and file format
 - if the **File Destinations** destination is used:
 - available for export on the GUI from the **Audit Report Files** menu
 - an entry is shown in the transaction log (*data/File save* with either *succeeded* or *failed*)

2.6.2. SMTP Server

A SMTP server can be configured at a hierarchy to allow for email messages to be sent from VOSS-4-UC. This functionality is available in:

- Quick Add Subscriber - a check box becomes available on the input form if enabled in **Global Settings** on the **Email** tab. See the Advanced Configuration Guide.
- File Transfer Destinations that can be configured by high level system administrators to transfer audit data for licensing. See the Advanced Configuration Guide.

Input the SMTP server details on the input form.

Note:

- Only one SMTP server can be set up at a hierarchy.
 - If a SMTP server is configured on a level above a hierarchy, this server will be used.
-

3 Subscriber Data Export

3.1. Data Export Overview

The **voss export** command is used to carry out a bulk data export from the VOSS-4-UC system database. The exported data can for example be imported into a warehouse.

Important: Since a data export can take time, the **voss export** command can only be run in a `screen` session. First run **screen** and then **voss export** and its parameters.

Type **voss export help** for details.

The data extract schedule can be managed with the **schedule** command. For details on the use of the command, see: [Scheduling](#). Since bulk data exports can typically take more than an hour on a scale system, it is recommended to schedule this task instead of running it manually from the console.

The export file format is JSON as per RFC 7159. For details on the filename, format and contents of the export files, refer to the Data Export Types topic in the Appendices.

The **voss export** command takes a `type` or `group` parameter to indicate the type of data to export.

The following are values of the `group` parameter:

- subscriber
- license

For example:

voss export group subscriber

```
platform@VOSS:~$ voss export group subscriber
Starting subscriber group export consisting of analogue_line_mgcp,
analogue_line_sccp, call_pickup_group, contact_center_enterprise,
contact_center_express, customer, extension_mobility, fmc,
hunt_group, line, phones, site, subscriber, webex_teams, please wait...
Starting analogue_line_mgcp export, please wait...
Completed analogue_line_mgcp export,
created 2019-09-30_0859_analogue_line_mgcp.json.gz.
[...]
```

3.2. Data Export Commands

3.2.1. Subscriber Data Export Command

Note: The command **voss subscriber_data_export** is equivalent to **voss export group subscriber**.

Important:

- To optimise performance, run and schedule the data export command from the *secondary* database server if possible.
- Since a data export can take time, the **voss subscriber_data_export** and **voss export** commands can only be run in a `screen` session. First run **screen** and then **voss export** and its parameters. See also: *Using the screen command*.
- Since the data export command runs database queries, it is recommended that the data exports be scheduled. Refer to the topic on scheduling for details and syntax.

for example:

```
schedule add subscriber_export voss export group subscriber
```

```
schedule time subscriber_export weekly 1
```

Best practices for scheduling to consider, are:

- Individual report exports should be scheduled in a serial manner so that they do not overlap and result in a high database load.
- For resilience:
 - * Stagger the schedule based on how long it is expected to run - in accordance with the number of subscribers in the database.
 - * For better failover support, schedules can be created on all active Unified Nodes. This requires a more complex schedule staggering and collection management.
 - * For simplified schedule staggering and the export collection management, schedules can be created and staggered on a single Unified Node. This option but requires a manual re-schedule in the case of node failover.

More than one `type` parameter can be specified for the command by using the `type` parameter for each. For example:

```
voss export type line type site.
```

The `type` parameter values by `subscriber` group are listed below, as well as a reference to the content details:

- `analogue_line_mgcp` (*Analogue line MGCP Data Export*)
- `analogue_line_sccp` (*Analogue Line SCCP Data Export*)
- `call_pickup_group` (*Call Pickup Group Data Export*)
- `contact_center_enterprise` (*Contact Center Enterprise Data Export*)
- `contact_center_express` (*Contact Center Express Data Export*)
- `customer` (*Customer Data Export*)
- `extension_mobility` (*Extension Mobility Data Export*)

- `fmc` (*FMC Data Export*)
- `hunt_group` (*Hunt Group Data Export*)
- `line` (*Line Data Export*)
- `phones` (*Phones Data Export*)
- `site` (*Site Data Export*)
- `subscriber` (*Subscriber Data Export*)
- `webex_teams` (*Webex Teams Data Export*)

The export file directory and file format of the `subscriber` group is:

- **directory:** `media/data_export/<YYYY-MM-DD>`
- **file naming format:** `<YYYY-MM-DD_HHMM>_<type>.json.gz`

For `subscriber` group files:

- A retention policy of 30 days is in place. After each successful extraction of the data, any extract files 31 days old or older will be removed.
- If an export contains no data, a JSON file will contain an empty JSON list: `[]`.

Example:

```
media/data_export/2018-10-11/2018-10-11_1236_analogue_line_sccp.json.gz
```

Command examples:

- **Single type**

```
$ voss export type line
Starting line export, please wait...
Completed line export, created 2018-10-11_1236_line.json.gz.
```

- **Multiple types**

```
$ voss export type line type site
Starting line export, please wait...
Completed line export, created 2018-10-11_1236_line.json.gz.
Starting site export, please wait...
Completed site export, created 2018-10-11_1236_site.json.gz.
```

- **Group**

All types in a group are exported.

```
$ voss export group subscriber
Starting subscriber group export consisting of analogue_line_mgcp, analogue_line_sccp,
↪ [...]
Starting analogue_line_mgcp export, please wait...
Completed analogue_line_mgcp export, created 2018-10-11_1236_analogue_line_mgcp.json.
↪gz.
Starting analogue_line_sccp export, please wait...
Completed analogue_line_sccp export, created 2018-10-11_1236_analogue_line_sccp.json.
↪gz.
[...]
Completed subscriber group export.
```

The export files can then be copied to a remote system. For example, from the VOSS-4-UC system, list out the data export files:

```
$ ls media/data_export/2018-10-11
2018-10-11_1236_analogue_line_sccp.json.gz
```

The exported files can be copied to a remote system using SCP or SFTP on port 22. For example:

```
remote_system:~$ scp <platform_user>@<voss_system>:media/data_export/2018-10-11/2018-
↪10-11_1236_analogue_line_sccp.json.gz .
```

3.2.2. Scheduling

Any CLI command can be scheduled to run automatically, including but not restricted to backups and security upgrades.

By default there is no backup maintenance scheduled. Backup maintenance can be scheduled with the number of copies to be kept - refer to the backup maintenance topic.

The automated job schedule format is as follows:

- **schedule add <job-name> <user-command>**
- **schedule time <job-name> <hour> <minute>**
- **schedule time <job-name> every <N> hours**
- Alternatively the job can be scheduled to run every week on Monday with **schedule time <job-name> weekly 1**; where 0 is Sunday, 1 is Monday, 2 is Tuesday, 3 is Wednesday, 4 is Thursday, 5 is Friday and 6 is Saturday
- **schedule enable <job-name>**

Example:

```
schedule add mybackups backup create localbackup
schedule time mybackups 2 0
schedule time mybackups weekly 0
schedule enable mybackups
```

Among the tasks that can be scheduled are:

- Backup creation, e.g. **schedule add backupme backup create localbackup**
- Backup maintenance, e.g. **schedule add backupclean backup clean localbackup keep 5**
- Health reports, e.g. **schedule add reports diag report**

The example below shows the console output for some commands:

```
platform@host:~$ schedule add myexport voss export type license_initial_audit
Automatically setting time to midnight and enabling
myexport:
  active: true
  command: voss export type license_initial_audit --force
  hour: 0
  min: 0

platform@host:~$ schedule time myexport weekly 0
```

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```

myexport:
  active: true
  command: voss export type license_initial_audit --force
  hour: 0
  min: 0
  week: 0

platform@host:~$ schedule disable myexport
myexport:
  active: false
  command: voss export type license_initial_audit --force
  hour: 0
  min: 0
  week: 0

```

3.2.3. Using the `screen` command

The **screen** command is available to execute long-running commands (for example, when upgrading) in the background.

The following commands require the running of **screen**:

- **cluster provision**
- **cluster upgrade**
- **app upgrade**
- **app template**
- **voss export type <args>**
- **voss export group <args>**
- **voss subscriber_data_export**

A message is displayed to indicate that **screen** should be run first:

```

This is a potentially long-running command and should be executed in a screen session
Run `screen` and then execute the command again

```

The use of **screen** is *not affected* by the use of the `--force` parameter with any of these commands.

The commands then run in a screen session that can be reconnected. The standard screen command parameters are available, in particular:

- **screen** - start a new session
- **screen -ls** - show sessions already available
- **screen -r [screen PID]** - reconnect to a disconnected session

The version of **screen** used in VOSS-4-UC also supports the creation of a log file. If long-running commands will be run, the log file captures screen console output up to the session timeout. A message shows:

```

timed out waiting for input: auto-logout

```

To create a screen log file:

1. Run **screen** and wait for screen to open.
2. Press **<Ctrl>-a** then **:** (colon). This will enter screen command mode at the bottom of the console.
3. Create your screen logfile in the `media/` directory:
 - a. In screen command mode, type **logfile media/<screen-logfilename>.log**
 - b. Press **<Enter>**
 - c. Press **<Ctrl>-a** and then **H** to start writing to the log file
 - d. Run your commands.

If the **screen** session times out, you can obtain console output from the log file, for example:

```
$ sftp platform@<host>:media/<screen-logfilename>.log
```

3.3. Data Export Types

3.3.1. Analogue line MGCP Data Export

Filename: `<YYYY-MM-DD_HHMM>_analogue_line_mgcp.json.gz`

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	name of the customer	string	v1
division_name	Intermediate Node (e.g Division or other node)	string	v1
location_name	Site Name	string	v1
hierarchy	The full hierarchy path for the item being exported	string	v1
usernames	List of users assigned to the analog port	Array of strings	v1
gateway	name of the gateway that the port is on	string	v1
port_number	gateway port for this configuration	string	v1
port_type	the type of port for this gateway (typically FXS for analog)	string	v1
description	description of the gateway	string	v1
cucm_dn	Internal Number assigned to the device profile (as configured in the PBX)	string	v1
E164	External Number (E164 number) assigned to the device profile	string	v1

Example

(* marked fields are new in version 2)

```
[
  {
    * "provider_name": "CS-P",
    * "reseller_name": "CS-NB",
    "customer_name": "InGen",
    "division_name": "",
    "location_name": "StandardSite1",
    "usernames": [
      "SSUser33"
    ],
    "description": "",
    "hierarchy": "sys.hcs.CS-P.CS-NB.InGen.StandardSite1",
    "port_number": 4,
    "port_type": "Cisco MGCP FXS Port",
    "E164": "\\+441425204033",
    "cucm_dn": "81214033",
    "gateway": "SKIGW9981220001"
  }
]
```

3.3.2. Analogue Line SCCP Data Export

Filename: <YYYY-MM-DD_HHMM>_analogue_line_sccp.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	name of the customer	string	v1
division_name	Intermediate Node (e.g Division or other node)	string	v1
location_name	Site Name	string	v1
hierarchy	The full hierarchy path for the item being exported	string	v1
usernames	List of users assigned to the analog port	Array of strings	v1
gateway	name of the gateway that the port is on	string	v1
port_number	gateway port for this configuration	string	v1
port_type	the type of port for this gateway (typically FXS for analog)	string	v1
description	description of the gateway	string	v1
cucm_dn	Internal Number assigned to the device profile (as configured in the PBX)	string	v1
E164	External Number (E164 number) assigned to the device profile	string	v1

Example

(* marked fields are new in version 2)

```
[
  {
    *   "provider_name": "CS-P",
    *   "reseller_name": "CS-NB",
        "customer_name": "InGen",
        "division_name": "",
        "location_name": "StandardSite1",
        "usernames": [
            "SSUser33"
        ],
        "description": "",
        "hierarchy": "sys.hcs.CS-P.CS-NB.InGen.StandardSite1",
        "port_number": 0,
        "port_type": "Analog Phone",
        "E164": "",
        "cucm_dn": "81214050",
        "gateway": "SKIGW9981212041"
    }
]
```

3.3.3. Call Pickup Group Data Export

(New report in version 2)

Filename: <YYYY-MM-DD_HHMM>_call_pickup_group.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	Name of the Customer	string	v2
division_name	Intermediate Node (e.g Division or other node)	string	v2
location_name	Name of the Site	string	v2
hierarchy	The full hierarchy path for the item being exported	string	v2
pickup_group_name	The name of the Call Pickup Group	string	v2
pickup_group_number	The DN for the Call Pickup Group	string	v2
pickup_group_partition	The route partition for the Call Pickup Group DN	string	v2
member	Array of member lines	array	v2
member.cucm_dn	Description of the directory number and partition	string	v2
member.partition	Route partition associated with the member directory number	string	v2

Example

```
[
  {
    "provider_name": "CS-P",
```

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```

    "reseller_name": "CS-NB",
    "customer_name": "CustomerName",
    "division_name": "",
    "location_name": "AAA-Boston",
    "hierarchy": "sys.hcs.CS-P.CS-NB.CustomerName.AAA-Boston",
    "pickup_group_name": "Support",
    "pickup_group_number": "80000",
    "pickup_group_partitiion": "Cul-AllowVm-PT",
    "member": [
      {
        "cucm_dn": "50409",
        "partition": "Cul-AllowVm-PT"
      }
    ]
  }
]

```

3.3.4. Contact Center Enterprise Data Export

Filename: <YYYY-MM-DD_HHMM>_contact_center_enterprise.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2.2
reseller_name	Name of the Reseller	string	v2.2
customer_name	name of the customer	string	v2.2
division_name	Intermediate Node (e.g Division or other node)	string	v2.2
location_name	Site Name	string	v2.2
hierarchy	The full hierarchy path for the item being exported	string	v2.2
Name	Contact Center Username	string	v2.2
PeripheralNumber	Skill group peripheral number	integer	v2.2
Supervisor	User type	boolean	v2.2

Example

```

[
  {
    "division_name": "",
    "Supervisor": false,
    "Name": "standalone_ccdm_user_2",
    "hierarchy": "sys.hcs.Provider_01.Reseller_01.Customer_01.Site_01",
    "reseller_name": "Reseller_01",
    "location_name": "Site_01",
    "provider_name": "Provider_01",
    "PeripheralNumber": 2,
    "customer_name": "Customer_01"
  }
]

```

3.3.5. Contact Center Express Data Export

Filename: <YYYY-MM-DD_HHMM>_contact_center_express.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2.2
reseller_name	Name of the Reseller	string	v2.2
customer_name	name of the customer	string	v2.2
division_name	Intermediate Node (e.g Division or other node)	string	v2.2
location_name	Site Name	string	v2.2
hierarchy	The full hierarchy path for the item being exported	string	v2.2
username	Contact Center Express username	string	v2.2
userID	CUCM user ID	string	v2.2
teamName	Contact Center Express team name	string	v2.2
type	Contact Center Express user type	string	v2.2
autoAvailable	Availability status of the user	boolean	v2.2

Example

```
[
  {
    "division_name": "",
    "location_name": "Site_01",
    "firstName": "user_46",
    "extension": 2,
    "hierarchy": "sys.hcs.Provider_01.Reseller_01.Customer_01.Site_01",
    "lastName": "Latame",
    "userID": "user_46",
    "teamName": "Default",
    "reseller_name": "Reseller_01",
    "provider_name": "Provider_01",
    "customer_name": "Customer_01",
    "type": "Agent",
    "autoAvailable": false
  }
]
```

3.3.6. Customer Data Export

(New report in version 2)

Filename: <YYYY-MM-DD_HHMM>_customer.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	Name of the Customer	string	v2
hierarchy	The full hierarchy path for the item being exported	string	v2
account_id	The customer's account identifier	string	v2
external_id	An externally defined identifier for the customer	string	v2

Example

```
[
  {
    "provider_name": "CS-P",
    "reseller_name": "CS-NB",
    "customer_name": "Customer1",
    "hierarchy": "sys.hcs.CS-P.CS-NB.Customer1",
    "account_id": "ABCXYZ",
    "external_id": ""
  }
]
```

3.3.7. Extension Mobility Data Export

Filename: <YYYY-MM-DD_HHMM>_extension_mobility.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	name of the customer	string	v1
division_name	Intermediate Node (e.g Division or other node)	string	v1
location_name	Site Name	string	v1
hierarchy	The full hierarchy path for the item being exported	string	v1
username	the username of the owner of device profile	string	v1
device_type	Model the extension mobility profile is setup as	string	v1
lines	Array of objects containing line information	array	v1
lines.cucm_dn	Internal Number assigned to the device profile (as configured in the PBX)	string	v1
lines.E164	External Number (E164 number) assigned to the device profile	string	v1
lines.line_order	Line index.	integer	v2
device_profile_name	Name of the extension mobility profile	string	v2

Example:

(* marked fields are new in version 2)

```
[
  {
    * "provider_name": "CS-P",
    * "reseller_name": "CS-NB",
    "customer_name": "AAAGlobal",
    "division_name": "",
    "location_name": "AAA-Boston",
    "username": "ba_user4",
    "hierarchy": "sys.hcs.CS-P.CS-NB.AAAGlobal.AAA-Boston",
    * "device_profile_name": "FirstnameLastname-UDP",
    "lines": [
      {
        * "line_order": 1,
        "cucm_dn": "50409",
        "E164": "\\+18575550409"
      }
    ],
    "device_type": "Cisco 9971"
  }
]
```

3.3.8. FMC Data Export

(New report in version 2)

This report includes users who have the FMC feature configured. The report includes the destination configured and an indication of whether the service is currently enabled or disabled (based on v2 FMC with CIM-based FMC). Any users without the FMC feature configured will not appear in the file. This report is only populated if the FMC adaptation is installed on the system - the file will be blank on systems without any users configured or if the adaptation is not installed.

Filename: <YYYY-MM-DD_HHMM>_fmc.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	Name of the Customer	string	v2
division_name	Intermediate Node (e.g Division or other node)	string	v2
location_name	Name of the Site	string	v2
hierarchy	The full hierarchy path for the item being exported	string	v2
username	The userid of the remote destination profile	string	v2
destination_number	The mobile number associated with CIM device	string	v2
fmc_enabled	An indication of whether fixed mobile convergence is enabled for the destination	boolean	v2

Example

```
[
  {
    "provider_name": "CS-P",
    "reseller_name": "CS-NB",
    "customer_name": "AAAGlobal",
    "division_name": "",
    "location_name": "AAA-Boston",
    "hierarchy": "sys.hcs.CS-P.CS-NB.AAAGlobal.AAA-Boston"
    "username": "ba_user4",
    "destination": "08212345678",
    "fmc_enabled": true
  }
]
```

3.3.9. Hunt Group Data Export

Filename: <YYYY-MM-DD_HHMM>_hunt_group.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	name of the customer	string	v1
division_name	Intermediate Node (e.g Division or other node)	string	v1
hierarchy	The full hierarchy path for the item being exported	string	v1
location_name	Site Name	string	v1
hunt_group_name	Name assigned to the hunt group	string	v1
pilot_number	the internal number assigned as the pilot for the hunt group (as configured in the PBX)	string	v1
E164	the external number (Full E164 format) assigned as the pilot for the hunt group (as configured in the PBX)	string	v1
lines	Array of objects containing line information	array	v1
lines.cucm_dn	Internal Number assigned to the device profile (as configured in the PBX)	string	v1
partition	The route partition to which the Hunt Pilot number belongs	string	v2
line_group_name	Name of the line group	string	v2

Example

(* marked fields are new in version 2)

```
[
  {
    * "provider_name": "CS-P",
    * "reseller_name": "CS-AB",
    "customer_name": "AB_Group",
    "division_name": "AB-C",
```

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```

    "location_name": "CL1-AB-C-St_Nazaire",
    "hierarchy":
"sys.hcs.CS-P.CS-AB.AB_Group.AB-C.CL1-AB-C-St_Nazaire",
    "lines": [
      {
        "cucm_dn": "8134808",
        * "line_group_name": "BackOffice"
      }
    ],
    "hunt_group_name": "HL-825",
    "E164": "\\+33228544825",
    "pilot_number": "8134825",
    * "partition": "Cul-AllowVm-PT"
  }
]

```

3.3.10. Line Data Export

(New report in version 2)

Filename: <YYYY-MM-DD_HHMM>_line.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	Name of the Customer	string	v2
division_name	Intermediate Node (e.g Division or other node)	string	v2
location_name	Name of the Site	string	v2
hierarchy	The full hierarchy path for the item being exported	string	v2
cucm_dn	Internal Number of this line	string	v2
partition	The route partition to which the number belongs	string	v2
description	Description of the directory number and partition	string	v2
calling_search_space	This is mapped to the shareLineAppearanceCss- Name of the line	string	v2

Example

```

[
  {
    "provider_name": "CS-P",
    "reseller_name": "CS-NB",
    "customer_name": "CustomerName",
    "division_name": "",
    "location_name": "AAA-Boston",
    "hierarchy": "sys.hcs.CS-P.CS-NB.CustomerName.AAA-Boston",

```

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```

    "cucm_dn": "50409",
    "partition": "Cu1-AllowVm-PT",
    "description": "Front Desk",
    "calling_search_space": "Cu1-AnumAnaly-CSS"
  }
]

```

3.3.11. Phones Data Export

Filename: <YYYY-MM-DD_HHMM>_phones.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	name of the customer	string	v1
division_name	Intermediate Node (e.g Division or other node)	string	v1
location_name	Site Name	string	v1
hierarchy	The full hierarchy path for the item being exported	string	v1
usernames	list of usernames associated to the phones via Unified CM user, associated devices	array	v1
device_name	the name of the device (includes mac address if hardphone, softclients no mac)	string	v1
description	Text field attached to the device	string	v3
device_type	the model of the phone	string	v1
lines	Array of objects containing line information	array	v1
lines.cucm_dn	Internal Number assigned to the device profile (as configured in the PBX)	string	v1
lines.E164	External Number (E164 number) assigned to the device profile	string	v1
lines.line_order	Line index.	integer	v2
device_css	Calling search space of the phone	string	v2

Example:

(* marked fields are new in version 2 and version 3)

```

[
  {
    * "provider_name": "CS-P",
    * "reseller_name": "CS-NB",
    "customer_name": "AAAGlobal",
    "division_name": "",
    "location_name": "AAA-Boston",
    "hierarchy": "sys.hcs.CS-P.CS-NB.AAAGlobal.AAA-Boston",

```

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```
"usernames": [
  "ba_user4"
],
"lines": [
  *
  {
    "line_order": 1,
    "cucm_dn": "50409",
    "E164": "\\+18575550409"
  }
],
"device_name": "SEP99887777788",

  "description": "Meeting Room Phone",
  "device_type": "Cisco 9971",
  "device_css": "CulSil-USADP-Emer-CSS"
}
]
```

3.3.12. Site Data Export

Filename: <YYYY-MM-DD_HHMM>_site.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VER.
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	Name of the customer	string	v1
division_name	Intermediate Node (e.g Division or other node)	string	v1
location_name	Site Name	string	v1
hierarchy	The full hierarchy path for the item being exported	string	v1
customer_address1	Address string 1 for the customer	string	v1
customer_address2	Address string 2 for the customer	string	v1
customer_address3	Address string 3 for the customer	string	v1
location_address1	Address string 1 for the site	string	v1
location_address2	Address string 2 for the site	string	v1
location_address3	Address string 3 for the site	string	v1
emergency_number	External emergency callback number assigned to the site	string	v1
ndl	The NDL name that the site uses	string	v1
inter_site_prefix	Digit dialled to prefix intersite calls (if the dial plan is setup that way)	string	v1
external_access_prefix	Digit dialled to make external calls (if the dial plan is setup that way)	string	v1
site_code	Dial Plan site code assigned to the site (if the dial plan is setup that way)	string	v1
published_number	External published callback number assigned to the site	string	v1
country_code	Country code identifying the site	string	v1
voice_bandwidth	voice bandwidth allocation for the site	string	v1
video_bandwidth	video bandwidth allocation for the site	string	v1
external_id	An externally defined ID for the site	string	v2
extended_name	An expanded name for the site	string	v2

Example:

(* marked fields are new in version 2)

```
[
  {
    * "provider_name": "CS-P",
    * "reseller_name": "CS-NB",
    "customer_name": "Varidion",
    "division_name": "",
    "location_name": "Varidion-Reading",
    "hierarchy": "sys.hcs.CS-P.CS-NB.Varidion.Varidion-Reading",
    "customer_address1": "Varidion New York (Head Office)",
    "customer_address2": "L23, 33 Central Square",
    "customer_address3": "Dallas, TX, USA",
    "ndl": "GS-R3-VDN-CL1-NDL",
```

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```
    "inter_site_prefix": "",
    "site_code": "",
    "video_bandwidth": "",
    "emergency_number": "",
    "voice_bandwidth": "",
    "country_code": "44",
    "external_access_prefix": "",
    "location_address1": "Varidion Reading",
    "location_address3": "Reading, Berkshire",
    "location_address2": "Atlantic House, Imperial Way",
    "published_number": "",
    * "external_id": "ABCXYZ",
    * "extended_name": "UK IT"
  }
]
```

3.3.13. Subscriber Data Export

Filename: <YYYY-MM-DD_HHMM>_subscriber.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2
reseller_name	Name of the Reseller	string	v2
customer_name	name of the customer	string	v1
division_name	Intermediate Node (e.g Division or other node)	string	v1
location_name	Site Name	string	v1
hierarchy	The full hierarchy path for the item being exported	string	v1
username	username of the user	string	v1
first_name	First name of the user	string	v1
middle_name	Middle name of the user	string	v3
last_name	Last name of the user	string	v1
email	email address of the user	string	v1
entitlement_profile	the profile assigned to the user that defines the features they are enabled to have configured	string	v1
role	The role assigned to the user - defines privileges in the portal	string	v1
credential_policy	The security profile assigned to the user - defined credential and other security rules for portal access	string	v1
snr	Does the user have the SNR service configured	boolean	v1
voicemail	Does the user have a voicemail box configured	boolean	v1
title	Subscriber's title	string	v2
department	Subscriber's department	string	v2
telephone_number	Subscriber's telephone number as configured in the CUCM user record	string	v2
pager_number	Subscriber's pager number	string	v3

Example

(* marked fields are new in version 2, ** marked fields are new in version 3)

```
[
  {
    *   "provider_name": "CS-P",
    *   "reseller_name": "CS-NB",
        "customer_name": "AAAGlobal",
        "division_name": "",
        "location_name": "AAA-Boston",
        "hierarchy": "sys.hcs.CS-P.CS-NB.AAAGlobal.AAA-Boston",
        "username": "ba_user4",
        "first_name": "Dean",
    **  "middle_name": "John",
        "last_name": "Daniels",
        "voicemail": false,
        "entitlement_profile": "AAAGlobal-Foundation-EP",
        "snr": false,
        "credential_policy": "HcsCredentialPolicy",
        "role": "AAA-BostonSelfService",
```

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```

    "email": "email@theinternet.com",
  *   "title": "Dr.",
  *   "department": "R&D",
  *   "telephone_number": "0215252020"
  **  "pager_number": "5551234545"
    }
  ]

```

3.3.14. Webex Teams Data Export

Filename: <YYYY-MM-DD_HHMM>_webex_teams.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v2.2
reseller_name	Name of the Reseller	string	v2.2
customer_name	name of the customer	string	v2.2
division_name	Intermediate Node (e.g. Division or other node)	string	v2.2
location_name	Site Name	string	v2.2
hierarchy	The full hierarchy path for the item being exported	string	v2.2
firstName	First name of user	string	v2.2
lastName	Last name of user	string	v2.2
email	User email address	string	v2.2
line	User line	string	v2.2
messaging	Webex Teams Messaging	boolean	v2.2

Note: Services reported on are dynamically included. The reference material and JSON snippet here are examples.

ELE-MENT	DESCRIPTION	DATA TYPE	VER-SION
hy-brid_call_services	Users' incoming calls will ring their work phones and the Cisco Webex Teams app. Users can call their colleagues from either their phones or the app, too. Aware	boolean	v2.2
connect	must be enabled before the user can be enabled for Connect.	boolean	v2.2
aware	Users can share content from the Cisco Webex Teams app during a call from their work phones and view their call history in the app.		

ELEMENT	DESCRIPTION	DATA TYPE	VER-SION
hybrid_calendar_services:	Google Calendar	boolean	v2.2
google	Microsoft Exchange/Office 365	boolean	v2.2
microsoft_exchange			v2.2

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
meeting	Named User Licence. Each Named User license allows 1 user to be entitled as a meeting host. Named users can hold unlimited meetings.	N/A	N/A
we-bex_enterprise_200		boolean	v2.2
we-bex_support_center		boolean	v2.2
we-bex_meeting_center		boolean	v2.2
webex_cmr		boolean	v2.2
we-bex_event_center		boolean	v2.2
we-bex_training_center		boolean	v2.2
meeting		boolean	v2.2

Example

```
[
  {
    "division_name": "",
    "status": "",
    "location_name": "Site_03",
    "firstName": "",
    "hierarchy": "sys.hcs.Provider_01.Reseller_01.Customer_02.Site_03",
    "lastName": "",
    "provider_name": "Provider_01",
    "services": {
      "hybrid_call_services": {
        "connect": false,
        "aware": false
      },
      "message": {
        "messaging": false
      },
      "meeting": {
        "webex_enterprise_200": false,
        "webex_support_center": false,
        "webex_meeting_center": false,
        "webex_cmr": false,
        "webex_event_center": false,
        "webex_training_center": false,
        "meeting": false
      },
      "hybrid_calendar_services": {
        "google": false,
        "microsoft_exchange": false
      },
      "hybrid_message_services": {
        "message": false
      }
    }
  }
]
```

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```
    },  
    "reseller_name": "Reseller_01",  
    "line": "",  
    "email": "spark_user_36@emailaccount.com",  
    "customer_name": "Customer_02"  
  },  
  ]
```

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