



# VOSS Automate Licensing and Subscriber Data Export Guide

Release 21.2

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# 1. Licensing

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**Important:**

- VOSS may from time to time add additional fields and reports to update the data export. Note that existing fields will not be removed. Before running any updated release of the export, it is therefore recommended that an impact assessment of the changes in the release be made prior to the processing of exported files.
- All changes in version 4.0.2 of the License Super Patch are automatically included in release 21.2. Therefore, the License Super Patch is not required for platforms on release 21.2. 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.

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## 1.1. Change Log

Version	Re-lease(s)	Content
4.0.2	19.3.4, 21.1	<ul style="list-style-type: none"> <li>• Fixed the entitlement profile and title fields of the subscriber SDE report</li> <li>• Added the 'ownerid' field to the phones SDE report</li> </ul>
4.0.1	19.3.4, 21.1	<ul style="list-style-type: none"> <li>• ClientShape audit automation support</li> <li>• Include the V4UC organization ID in the CSV header files (for ClientShape)</li> <li>• Addition of Microsoft and PexIP related service counts</li> <li>• Addition of Voss Phone Server count</li> <li>• Added N-to-1 DN to E164 Association to the SDE reports</li> <li>• Added various Microsoft related (including Exchange) SDE reports</li> <li>• Added a PexIP SDE report</li> <li>• Added phone expansion module fields (module 1, 2 and 3) to the phones SDE report</li> </ul>
3.0.1	19.3.2	<ul style="list-style-type: none"> <li>• No changes were made to the licensing code itself, but the CLI output of the license super patch was made more descriptive</li> </ul>
3.0.0	19.3.1	<ul style="list-style-type: none"> <li>• 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</li> <li>• Alternate ways were added to automate the collection of the VOSS license files: <ul style="list-style-type: none"> <li>– SFTP: Send the file to a remote SFTP server</li> <li>– Email: Email the file to an email destination (requires SMTP server access)</li> <li>– HTTP: Send the license file(s) to an HTTP server</li> <li>– File Download via the Portal: Local download via the VOSS Automate GUI</li> </ul> </li> <li>• 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</li> <li>• The license output filename format changed to include provider and hostname - this adds support for a single partner/customer that may have multiple platforms</li> <li>• The new filename format: <ul style="list-style-type: none"> <li>– “vlf_&lt;provider_name&gt;_&lt;host_name&gt;_license_&lt;YYYY-MM-DD_HHMM&gt;.zip” (containing anonymous data)</li> <li>– “vlf_&lt;provider_name&gt;_&lt;host_name&gt;_detailed_&lt;YYYY-MM-DD_HHMM&gt;.csv” (containing detailed information)</li> </ul> </li> <li>• Additional headers were added to the output files for platform identification and version: <ul style="list-style-type: none"> <li>– Platform ID (generated by the system and is unique)</li> <li>– Hostname of the system</li> <li>– Provider on the system</li> <li>– Software Version</li> <li>– Deployment Mode</li> </ul> </li> </ul>

Version	Re-lease(s)	Content
2.3.0	19.1.2	<ul style="list-style-type: none"> <li>• 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</li> <li>• Alignment with CUCM licensing rules, including: <ul style="list-style-type: none"> <li>– Exclusion of CTI Ports from license counts</li> <li>– Spark Remote Device type only consuming a license when it is a subscriber's only device</li> </ul> </li> <li>• Addition of a Site Count column to report the number of sites per customer</li> </ul>
2.0.0	11.5.3 18.1	<ul style="list-style-type: none"> <li>• The expanded ability to audit in terms of VOSS-4-UC added capabilities, such as Webex Teams (aka Spark) and Contact Center</li> <li>• 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.</li> <li>• Public sector setting on customer</li> <li>• Notifications when the scheduled run of the audit fails for some reason - CLI, email, SNMP.</li> </ul>
1.0.0	11.5.3 18.1	<ul style="list-style-type: none"> <li>• The ability to audit the existing deployment in terms of CUCDM functionality and licenses.</li> <li>• 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.</li> </ul>

## 1.2. License Data Export Overview

The license data export functionality provides a way 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.

License data export is required on all production systems.

This functionality provides two views of the data:

Data to be provided to VOSS	Aggregated counts and other data required for billing. The tool does not collect any data identifying users or customers on the system. This data is provided to VOSS for billing.
Local view for the partner	As above, except that it includes identifying information about the customers. This is to help you better understand the data in terms of your customer base. No user data is collected. It is the partner's discretion to share this data with VOSS.

Files are raw JSON format, and contain the data 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.

The data is correlated and written to a file locally on the system, scheduled for the end of each month, and provides an aggregated snapshot of services consumed in the system, in terms of VOSS license definitions.

On the billing anniversary determined by your contract (for example, monthly or quarterly) 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.

Files are retained on the system for two years and are automatically removed at the end of this period.

The **Public Sector** setting at the customer hierarchy node allows you to flag a customer as *Public Sector* for licensing purposes, in the event that 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.

## 1.3. 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.

### 1.3.1. 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.
```

## 1.4. Single Licensing Update Patch

### 1.4.1. 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 4.0.2 of the License Super Patch are automatically included in release 21.2. Therefore, the License Super Patch is not required for platforms on release 21.2.
- 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 and the MOP are available here:

- Server Name: <https://voss.portalshape.com>
- Path: **Downloads > VOSS-4-UC > License Audit Script > License-Super-Patch-4.0.2**
- Patch Directory: **License-Super-Patch-4.0.2\_patch**
- Patch File: `License-Super-Patch-4.0.2_patch.script`
- MOP File: `MOP-License-Super-Patch-4.0.2_patch.pdf`

An accompanying file, `EKB-10875_PB5_sysadmin_cloud_license.template` is available to expose the VOSS Cloud License Service in the `sysadmin` user menu.

#### 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 19.3.4 FCS, PB1 - PB5 VOSS-4-UC 21.1 and later VOSS-4-UC 20.1 not supported	No Dependencies No Dependencies No Dependencies	Cloud License template file for PB5 Not Applicable Not Applicable
VOSS-4-UC 19.1.1 and later	No Dependencies	Not Applicable
VOSS-4-UC 18.1	<ul style="list-style-type: none"> <li>• VOSS-4-UC 18.1 Bundle 03 or later 18.1-V4UC-Patch-Bundle-03/b</li> <li>or</li> <li>• Licensing Version 2 (Provider) VOSSUC-225_PROVIDER_18.1_bundled</li> <li>or</li> <li>• Licensing Version 2 (Enterprise) VOSSUC-225_ENTERPRISE_18.1_bundled</li> </ul>	Install VOSS-4-UC 18.1 Bundle 3b or later first
CUCDM 11.5.3	<ul style="list-style-type: none"> <li>• Licensing Version 2 VOSSUC-225_CUCDM_11.5.3_bundled</li> </ul>	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"> <li>• Licensing Version 1 VOSSUC15663-11.5.2 VOSS-46-11.5.2 VOSSUC-20323_11.5.2</li> </ul>	Dependencies automatically installed
CUCDM 11.5.1 SU1 VOSS-4-UC 17.4	<ul style="list-style-type: none"> <li>• Licensing Version 1 VOSSUC15663-11.5.1SU1 VOSS46-11.5.1SU1 VOSSUC-20323_11.5.1su1</li> </ul>	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.

## 1.5. Report Files

### 1.5.1. 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`

## 1.5.2. 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).

### 1.5.3. 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.

## 1.6. Data Export Types

### 1.6.1. 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:

```
#OrgID=0010000001kPTUpQAO
#Platform ID=5e54067d116fa10046313224
#hostname=VOSS-UN-1
#Provider Name=CS-P
#Software Version=21.2
#Platform Version=21.2.0-1630252949
#Deployment Mode=Provider with HCMF
#Date Time=2021-11-19 13:11
#Audit Version=4.0.1
```

**Note:** For licensing:

- OrgID is the account id from the Customer Portal: **Company Information**.
- 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
Inactive Billing	Flag that indicates if the Customer's licenses should be billed - used for test customers.	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

DEVICE/SERVICE	DESCRIPTION	DATA TYPE
MS Teams (No Voice)	Number of Microsoft Teams users under the Customer who do not have Enterprise Voice enabled.	integer
MS Teams & Voice	Number of Microsoft Teams users under the Customer with Enterprise voice service enabled.	integer
MS Teams & Voice & Exchange	Number of Microsoft Teams users with Enterprise voice service enabled and with MS Exchange mailbox under the Customer. User is in Azure AD and licensed.	integer
MS O365 User (no Teams)	Number of Microsoft Office 365 users without Microsoft Teams.	integer
Cisco and MS Integrated Service	Number of Subscribers under the Customer with integrated Cisco and Microsoft services. (Hybrid)	integer
Multi-vendor Users	Number of Subscribers under the Customer with devices from multiple vendors, e.g. Cisco and Microsoft. (excluding Hybrid)	integer
PexIP only	Number of users under the Customer only provisioned with Pexip Conference service.	integer
Phone Server Phones	Number of VOSS Phone Server phones set up under the Customer.	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.
- MS O365: Microsoft Office 365
- MS Teams: Microsoft Teams

**Example:**

```
#OrgID=0010000001kPTUpQAO
#Platform ID=5e54067d116fa10046313224
#hostname=VOSS-UN-1
#Provider Name=CS-P
#Software Version=21.2
#Platform Version=21.2.0-1630252949
#Deployment Mode=Provider with HCMF
#Date Time=2021-10-30 11:53
#Audit Version=4.1.1
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), \
```

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```

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, \
Inactive Billing,Standalone Analog Ports (No UCM User), \
Standard Users with Spark,MS Teams (No Voice),MS Teams & Voice, \
MS Teams & Voice & Exchange,MS O365 User (no Teams), \
Cisco and MS Integrated Service,Multi-vendor Users,PexIP only, \
Phone Server Phones,Site Count
Provider_01,Reseller_01,Customer_01,6197a2522f7ab2c5dbb8f2aa,3,6,2,6,13,3,6,4,4,2,5,3,
↪4,6,7,6,5,2,3,2,2,12,Y,Y,4,0,0,0,0,0,0,0,0,2
Provider_01,Reseller_01,Customer_02,6197a2572f7ab2c5dbb8f2fc,0,4,6,7,0,0,0,0,1,4,1,1,
↪2,1,3,2,1,1,1,1,8,Y,N,2,0,0,0,0,0,0,0,0,0,1

```

## 1.6.2. 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:

```

#OrgID=0010000001kPTUpQAO
#Platform ID=5e54067d116fa10046313224
#hostname=VOSS-UN-1
#Provider Name=CS-P
#Software Version=21.2
#Platform Version=21.2.0-1630252949
#Deployment Mode=Provider with HCMF
#Date Time=2021-11-19 13:11
#Audit Version=4.1.1

```

**Note:** For licensing:

- OrgID is the account id from the Customer Portal: **Company Information**.
- 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
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
Inactive Billing	Flag that indicates if the Customer's licenses should be billed - used for test customers.	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

DEVICE/SERVICE	DESCRIPTION	DATA TYPE
MS Teams (No Voice)	Number of Microsoft Teams users under the Customer who do not have Enterprise Voice enabled.	integer
MS Teams & Voice	Number of Microsoft Teams users under the Customer with Enterprise voice service enabled.	integer
MS Teams & Voice & Exchange	Number of Microsoft Teams users with Enterprise voice service enabled and with MS Exchange mailbox under the Customer. User is in Azure AD and licensed.	integer
MS O365 User (no Teams)	Number of Microsoft Office 365 users without Microsoft Teams.	integer
Cisco and MS Integrated Service	Number of Subscribers under the Customer with integrated Cisco and Microsoft services. (Hybrid)	integer
Multi-vendor Users	Number of Subscribers under the Customer with devices from multiple vendors, e.g. Cisco and Microsoft. (excluding Hybrid)	integer
PexIP only	Number of users under the Customer only provisioned with Pexip Conference service.	integer
Phone Server Phones	Number of VOSS Phone Server phones set up under the Customer.	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.
- MS O365: Microsoft Office 365
- MS Teams: Microsoft Teams

**Example:**

```
#OrgID=0010000001kPTUpQAO
#Platform ID=5e54067d116fa10046313224
#hostname=VOSS-UN-1
#Provider Name=CS-P
#Software Version=21.2
#Platform Version=21.2.0-1630252949
#Deployment Mode=Provider with HCMF
#Date Time=2021-11-19 13:11
#Audit Version=4.1.1
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, \
```

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```

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,Inactive Billing, \
Standalone Analog Ports (No UCM User),Standard Users with Spark,MS Teams (No Voice), \
MS Teams & Voice,MS Teams & Voice & Exchange,MS O365 User (no Teams), \
Cisco and MS Integrated Service,Multi-vendor Users,PexIP only,Phone Server Phones, \
Site Count
6197a2522f7ab2c5dbb8f2aa,3,6,2,6,13,3,6,4,4,2,5,3,4,6,7,6,5,2,3,2,2,12,Y,Y,4,0,0,0,0,0,
↪0,0,0,0,2
6197a2572f7ab2c5dbb8f2fc,0,4,6,7,0,0,0,0,1,4,1,1,2,1,3,2,1,1,1,1,8,Y,N,2,0,0,0,0,0,0,
↪0,0,0,1

```

## 1.7. Distributing Licensing Reports

### 1.7.1. 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 Automate 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

- **VOSS Cloud Licensing Service**

- Automatically upload license audit files to the VOSS Customer Portal - see: [VOSS Cloud Licensing Service](#).

- **Web Proxies**

- Proxy setup for delivery methods using web proxies - see: [Set up a Web Proxy for Licensing Delivery](#).

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*)

## 1.7.2. SMTP Server

A SMTP server can be configured via the **Apps Management** menu at the relevant hierarchy to allow VOSS Automate to send email messages.

Email functionality is available for the following:

- Quick Add Subscriber (QAS)

When email is enabled in the Global Settings (Email tab), you can select a checkbox on QAS to send a welcome email to new subscribers added via QAS.

- File Transfer Destinations

Configured by high level system administrators to transfer audit data for licensing. See the Licensing and Subscriber Data Export Guide.

## Add a SMTP Server

This procedure adds a SMTP server at a hierarchy level.

### Prerequisites:

- Enable emails in the Global Settings (Email tab).

### Perform these steps:

1. Log in to the Admin Portal, at the hierarchy where you wish to add a SMTP server.

---

**Note:** You may only set up one SMTP server at each hierarchy level. Hierarchies below the hierarchy where the SMTP server is set up can use the SMTP server at the hierarchy above; that is, sites can use the SMTP server set up at the customer level.

---

2. Go to (default menus) **Apps Management > SMTP**.
3. Click the toolbar Plus sign (+) to add a new SMTP server.
4. On the SMTP Server form, configure details for the new SMTP server:
  - Add name for the SMTP server, and a description for the email account.
  - Enter the SMTP server hostname and port number.
  - Select **Secure** to use the SSL protocol for establishing a connection to the SMTP server.
  - Enter username and password credentials for establishing a connection to the SMTP server.

### Related Topics

- Email in the Core Feature Guide

## 1.7.3. Set up a Web Proxy for Licensing Delivery

If your licensing delivery method configuration includes a destination that allows for the selection of a web proxy, the proxy setup can be added from the **Web Proxies** menu.

Add a web proxy to capture its connection details in the partner deployment.

1. From the menu, add an instance and complete the necessary fields:
  - Name
  - Web protocol (http/https)
  - Proxy protocol (http)
  - Proxy address
  - Proxy port
  - Username
  - Password
2. Click **Save**.

The web proxy **Name** will be available to select on file transfer destination input forms that have **Web proxy** drop downs, for example **VOSS Cloud Licensing Service**.



### 1.7.4. VOSS Cloud Licensing Service

In order to automate the retrieval of the VOSS license audit files from the system to deliver them to VOSS as required, the files can automatically be uploaded to the VOSS Customer Portal.

**Important:** The VOSS Licensing Service is available as follows:

In 19.3.4 FCS, PB-1 - PB-5, 21.1 and later: only if you install the License Super Patch 4.0.2 and later.

- For details of the License Super Patch 4.0.2 see [Patch Update to Latest Release](#)
- To expose the menus, see [Patch Update to Latest Release](#)

The integration and automation is carried out by:

- Capturing and activating customer organization details on VOSS Cloud Licensing Service from VOSS Automate:
  - [Set Up the VOSS Cloud Licensing Service](#)
  - [Set up a Web Proxy for Licensing Delivery](#)
- Automatic inclusion upload of license audit files to the VOSS Cloud Licensing Service when the system runs an internal schedule to generate monthly license reports.
  - [Licensing Destinations and Formats](#)

### 1.7.5. Set Up the VOSS Cloud Licensing Service

VOSS Automate provides options to set up your VOSS Cloud Licensing service. The system registers your VOSS Cloud Licensing Service when saving the form.

#### Before you start

1. Open these ports to communicate with the VOSS Customer Portal:
  - Default HTTP: port 80
  - Default HTTPS: port 443

See Network Communications External to the Cluster in the Installation Guide.
2. Add the host name to an allowlist for trusted servers: platform.voss-solutions.com
3. Obtain license details for your organization from the **VOSS Customer Portal**, at [voss.portalshape.com/organisations](https://voss.portalshape.com/organisations):
  - On the **Information** tab, locate and copy your **Account ID**.

The screenshot displays the VOSS Customer Portal interface. At the top, there is a navigation bar with icons for INFORMATION, DOCUMENTATION, KNOWN ISSUES, SOFTWARE, CASES, SATISFACTION, USERS, MEETINGS, ACTION ITEMS, UPLOADS, and DOWNLOADS. Below this is a 'VIEW DASHBOARD' button. The main content area is divided into two sections: 'VOSS Support Contact Details' and 'Company Information'.

**VOSS Support Contact Details:**

- Support USA: +1 972 905 9181
- Support UK: +44 808-189-1232
- Support Australia: +61 28 03 85 057
- Email VOSS Support: GENERAL ENQUIRIES | ESCALATIONS

**Priority Cases:**

It is critical that any P1/P2 case raised with VOSS Service Desk is accompanied with a call to the VOSS Service Desk Hotline. When the call is made to the hotline, you will be required to provide the case reference, as well as provide key information related to the reason of the priority and business impact. For Priority cases, ensure that a conference session as well as platform CLI credentials is already in place so that time is not wasted prior to getting access to the affected platform.

**Company Information:**

- Account Type: Other
- Territory: North America
- Account ID: XXXXXXXXXXX
- Account Owner: Rachel Chicken
- Account Created: 2017-11-30
- Website:
- Engineering Lead: -- None --
- Operations Lead: Darrel Bremer
- Product Management Lead: -- None --
- Commercial Lead: -- None --
- Sponsor: -- None --
- Product Champion: Henry Barton
- VOSS Project Manager: -- None --
- VOSS Solutions Archite...: -- None --
- Resident Engineer: -- None --
- HTOM/Service Manager: -- None --

- On the **Software** tab, identify the installation type (Lab or Platform), and copy the platform name.

The screenshot shows the 'SOFTWARE' tab selected in the navigation bar. Below the navigation bar, there is a 'Customer Platforms (7)' section with a 'NEW SOFTWARE +' button. A table lists the installed software platforms.

Product Name	Version	Platform Type	Platform Name	Status	Lab / Production
VOSS Analytics & Assurance	Dashboard 63 / Arbitrator 22	Any		Active	Production
VOSS-4-UC	19.3.4-PB4	Any		Active	Lab
VOSS-4-UC	19.3.4-PB4	Any		Active	Production
VOSS-4-UC	21.1	Any		Active	Lab
VOSS-4-UC	19.3.2	Any		Active	Lab
VOSS-4-UC	19.3.2	Any		Active	Lab
VOSS-4-UC	19.3.2	Any		Active	Production

### To add and activate the license

1. Log in to the Admin Portal as a high-level administrator (system admin or above).
2. Go to **Administration Menu > Licensing > VOSS Cloud Licensing Service**.
3. In the **Organization ID** field, enter the account ID you obtained from the VOSS Customer Portal.
4. In the **Customer account information** field, enter the platform name you obtained from the VOSS Customer Portal (or enter a new server name) to identify your VOSS Automate installation.
5. Choose your **Installation Type**, either `Lab` or `Production`, as obtained from the VOSS Customer Portal.

6. At the **File format** drop-down, choose your file format. The default, `Anonymous ZIP`, includes a checksum hash.

See also the Data Export Types section in the Licensing and Subscriber Data Export Guide.

7. Choose whether to enable **File Upload Active**.
8. If a web proxy is required, ensure that it is set up on the **Web proxy** menu and choose it from the drop down.

For web proxy setup, see [Set up a Web Proxy for Licensing Delivery](#).

9. Click **Save**.

---

**Note:**

- Save will fail if no internet connection can be established to the VOSS Cloud Licensing Service.
  - Once the configuration is saved, the connection to the VOSS Cloud Licensing Service can be tested through the **Test Connection** actions on the form when investigating failures to upload license data files.
  - In the unlikely event that it is required to change the **Organization ID** associated with the platform, it is possible to modify the instance, which will attempt to re-register the platform with the VOSS Cloud Licensing Service. A failure will rollback the configuration to the previous state.
-

## 2. Subscriber Data Export

### 2.1. Introduction

The Subscriber Data Extract is a capability to provide an adhoc or scheduled basic data feed via the generation of a set of files.

The content of the files is settings around Subscribers and other key services in order to support billing/expense management operations and is not intended as a general data feed.

Additional fields or files may be added to the collection over time via the roadmap, so any planned file consumption should take that into account to minimize impact.

#### 2.1.1. Data Export Overview

The **voss export** command is used to carry out a bulk data export from the VOSS Automate 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.
[...]
```

## 2.2. Data Export Commands

### 2.2.1. 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*)
- `hybrid` (*Hybrid Data Export*)
- `line` (*Line Data Export*)
- `ms_o365` (*MS Office 365 Data Export*)
- `ms_teams` (*MS Teams Data Export*)
- `ms_exchange` (*MS Exchange Data Export*)
- `pexip_conference` (*Pexip Data Export*)
- `phones` (*Phones Data Export*)
- `site` (*Site Data Export*)
- `subscriber` (*Subscriber Data Export*)
- `voss_phone_servers` (*VOSS Phone Servers 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 Automate 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 .
```

## 2.2.2. 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
  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
```

### 2.2.3. 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 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 Automate 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
```

## 2.3. Data Export Types

### 2.3.1. Analogue line MGCP Data Export

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

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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

- ELEMENT: usernames
  - DESCRIPTION: List of users assigned to the analog port
  - SOURCE FIELD: device/cucm/User.userid
  - DATA TYPE: Array of strings
  - VERSION: v1
- ELEMENT: gateway
  - DESCRIPTION: name of the gateway that the port is on
  - SOURCE FIELD: device/cucm/GatewayEndpointAnalogAccess.domainName
  - DATA TYPE: string
  - VERSION: v1
- ELEMENT: port\_number
  - DESCRIPTION: gateway port for this configuration
  - SOURCE FIELD: device/cucm/GatewayEndpointAnalogAccess.endpoint.port.portNumber
  - DATA TYPE: string
  - VERSION: v1
- ELEMENT: port\_type
  - DESCRIPTION: the type of port for this gateway (typically FXS for analog)
  - SOURCE FIELD: device/cucm/GatewayEndpointAnalogAccess.endpoint.product
  - DATA TYPE: string
  - VERSION: v1
- ELEMENT: description
  - DESCRIPTION: description of the gateway
  - SOURCE FIELD: device/cucm/GatewayEndpointAnalogAccess.endpoint.description
  - DATA TYPE: string
  - VERSION: v1
- ELEMENT: cucm\_dn
  - DESCRIPTION: Internal Number assigned to the device profile (as configured in the PBX)
  - SOURCE FIELD: device/cucm/GatewayEndpointAnalogAccess.endpoint.port.lines.line.0.dirn.pattern

- DATA TYPE: string
- VERSION: v1
- ELEMENT: E164Members
  - DESCRIPTION: Array of E164 numbers and ranges assigned to `pilot_number` in the case of N-1 mapped lines
  - SOURCE FIELD: `device/cucm/GatewayEndpointAnalogAccess.endpoint.port.lines.line.0.dirn.pattern`
  - DATA TYPE: string
  - VERSION: v4
- ELEMENT: E164Members.e164\_number
  - DESCRIPTION: E164 number in the case of N-1 mapped lines
  - DATA TYPE: string
  - VERSION: v4
- ELEMENT: E164Members.e164\_range
  - DESCRIPTION: E164 range of `E164Members.e164_number` in the case of N-1 mapped lines
  - DATA TYPE: string
  - VERSION: v4
- ELEMENT: E164
  - DESCRIPTION: External Number (E164 number) assigned to the device profile
  - SOURCE FIELD: `device/cucm/GatewayEndpointAnalogAccess.endpoint.port.lines.line.0.dirn.pattern`
  - DATA TYPE: string
  - VERSION: v1

#### Example

```
[
{
  "division_name": "Intermed1",
  "usernames": [],
  "location_name": "Site1",
  "description": "",
  "port_number": 0,
  "hierarchy": "sys.171FDD8C03A6.Prov1.Resell.Cust1.Intermed1.Intermed1_1.Site1",
  "gateway": "site_1_endpoint_1_gateway_name",
  "E164": "s1e1_e164_value",
  "port_type": "Cisco MGCP FXS Port",
  "reseller_name": "Resell",
  "provider_name": "Prov1",
  "cucm_dn": "11111",
  "customer_name": "Cust1"
},
{
  "division_name": "Intermed1",
  "usernames": [],
  "location_name": "Site1",
  "description": "",
  "port_number": 1,
```

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```

    "hierarchy": "sys.171FDD8C03A6.Prov1.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
    "gateway": "site_1_endpoint_2_gateway_name",
    "E164": "",
    "port_type": "Cisco MGCP FXS Port",
    "reseller_name": "Resel1",
    "provider_name": "Prov1",
    "cucm_dn": "",
    "customer_name": "Cust1"
  },
  {
    "division_name": "Intermed2",
    "usernames": [
      "fred",
      "bob"
    ],
    "location_name": "Site2",
    "description": "",
    "port_number": 1,
    "hierarchy": "sys.171FDD8C03A6.Prov2.Resel2.Cust2.Intermed2.Site2",
    "gateway": "site_2_endpoint_1_gateway_name",
    "E164": "",
    "port_type": "Cisco MGCP FXS Port",
    "reseller_name": "Resel2",
    "provider_name": "Prov2",
    "cucm_dn": "3333333",
    "customer_name": "Cust2"
  }
]

```

### 2.3.2. Analogue Line SCCP Data Export

Filename: <YYYY-MM-DD\_HHMM>\_analogue\_line\_sccp.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/cucm/User.userid	Array of strings	v1
gateway	name of the gateway that the port is on device/cucm/GatewaySccpEndpoints.domainName	string	v1
port_number	gateway port for this configuration device/cucm/GatewaySccpEndpoints.endpoint.index	string	v1
port_type	the type of port for this gateway (typically FXS for analog) device/cucm/GatewaySccpEndpoints.endpoint.product	string	v1
description	description of the gateway device/cucm/GatewaySccpEndpoints.endpoint.description	string	v1
E164Members	Array of E164 numbers and ranges assigned to pilot_number in the case of N-1 mapped lines	string	v4

- ELEMENT: cucm\_dn
  - DESCRIPTION: Internal Number assigned to the device profile (as configured in the PBX)
  - SOURCE FIELD: device/cucm/GatewaySccpEndpoints.endpoint.lines.line.0.dirn.pattern
  - DATA TYPE: string
  - VERSION: v1
- ELEMENT: E164
  - DESCRIPTION: External Number (E164 number) assigned to the device profile
  - SOURCE FIELD: device/cucm/GatewaySccpEndpoints.endpoint.lines.line.0.dirn.pattern
  - DATA TYPE: string
  - VERSION: v1
- ELEMENT: E164Members.e164\_number
  - DESCRIPTION: E164 number in the case of N-1 mapped lines
  - DATA TYPE: string
  - VERSION: v4
- ELEMENT: E164Members.e164\_range
  - DESCRIPTION: E164 range of E164Members.e164\_number in the case of N-1 mapped lines
  - DATA TYPE: string
  - VERSION: v4

#### Example

```
[
{
  "division_name": "Intermed1",
  "usernames": [
    "test_userid"
  ],
  "location_name": "Site1",
  "description": "AN202AAAA202000",
  "port_number": 0,
  "hierarchy": "sys.48D13080D77F.Prov1.Resell.Cust1.Intermed1.Intermed1_1.Site1",
  "gateway": "SKIGW202AAAA202",
  "E164": "test_e164",
  "port_type": "Analog Phone",
  "reseller_name": "Resell",
  "provider_name": "Prov1",
  "cucm_dn": "\\+155545",
  "customer_name": "Cust1"
}
]
```

### 2.3.3. Call Pickup Group Data Export

(New report in version 2)

Filename: <YYYY-MM-DD\_HHMM>\_call\_pickup\_group.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/cucm/CallPickupGroup.name	string	v2
pickup_group_number	The DN for the Call Pickup Group device/cucm/CallPickupGroup.pattern	string	v2
pickup_group_partition	The route partition for the Call Pickup Group DN device/cucm/CallPickupGroup.routePartitionName	string	v2
member	Array of member lines	array	v2
member.cucm_dn	Description of the directory number and partition device/cucm/Line.pattern	string	v2
member.partition	Route partition associated with the member directory number device/cucm/Line.routePartitionName	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",
    "pickup_group_name": "Support",
    "pickup_group_number": "80000",
    "pickup_group_partition": "Cul-AllowVm-PT",
    "member": [
      {
        "cucm_dn": "50409",
        "partition": "Cul-AllowVm-PT"
      }
    ]
  }
]
```

### 2.3.4. Contact Center Enterprise Data Export

Filename: <YYYY-MM-DD\_HHMM>\_contact\_center\_enterprise.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/ccdm/Agent.Name	string	v2.2
PeripheralNumber	Skill group peripheral number device/ccdm/Agent.PeripheralNumber	integer	v2.2
Supervisor	User type device/ccdm/Agent.Supervisor	boolean	v2.2

## Example

```
[
  {
    "division_name": "",
    "Supervisor": false,
```

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```

    "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"
  }
]

```

### 2.3.5. Contact Center Express Data Export

Filename: <YYYY-MM-DD\_HHMM>\_contact\_center\_express.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/uccx/Agent.userID	string	v2.2
firstName	Agent first name device/uccx/Agent.firstName	string	v2.2
lastName	Agent last name device/uccx/Agent.lastName	string	v2.2
extension	Agent extension device/uccx/Agent.extension	string	v2.2
teamName	Contact Center Express team name device/uccx/Agent.teamName	string	v2.2
type	Contact Center Express user type device/uccx/Agent.type	string	v2.2
autoAvailable	Availability status of the user device/uccx/Agent.autoAvailable	boolean	v2.2

Example

```

[
  {
    "division_name": "",
    "location_name": "Site_01",

```

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```

    "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
  }
]

```

### 2.3.6. Customer Data Export

(New report in version 2)

Filename: <YYYY-MM-DD\_HHMM>\_customer.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/hcmf/Customer.accountID	string	v2
external_id	An externally defined identifier for the customer device/hcmf/Customer.externalCustomerID	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": ""
  }
]

```

### 2.3.7. Extension Mobility Data Export

Filename: <YYYY-MM-DD\_HHMM>\_extension\_mobility.json.gz

Layout:

ELEMENT	DESCRIPTION AND FIELD SOURCE	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 device/cucm/User.userid	string	v1
device_type	Model the extension mobility profile is setup as device/cucm/DeviceProfile.product	string	v1
device_profile_name	Name of the extension mobility profile device/cucm/DeviceProfile.name	string	v2
lines	Array of objects containing line information	array	v1
lines.cucm_dn	Internal Number assigned to the device profile (as configured in the PBX) device/cucm/DeviceProfile.lines.line.dirn.pattern	string	v1
lines.line_order	Line index. device/cucm/DeviceProfile.lines.line.index	integer	v2
lines.E164	External Number (E164 number) assigned to the device profile device/cucm/DeviceProfile.lines.line.dirn.pattern	string	v1
E164Members	Array of E164 numbers and ranges assigned to cucm_dn in the case of N-1 mapped lines	string	v4
E164Members.e164_number	E164 number in the case of N-1 mapped lines	string	v4
E164Members.e164_range	E164 range of E164Members.e164_number in the case of N-1 mapped lines	string	v4

Example:

```
[
{
  "division_name": "Intermed1",
  "username": "ba_user2",
  "location_name": "Site1",
  "hierarchy": "sys.822AF46F8FD3.Prov1.Resell1.Cust1.Intermed1.Intermed1_1.Site1",
  "lines": [
    {
      "line_order": 1,
      "cucm_dn": "50407",
      "E164": "91107"
    }
  ]
}
```

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```

    },
    {
      "line_order": 2,
      "cucm_dn": "50408",
      "E164": "91108"
    }
  ],
  "device_type": "Cisco 9971",
  "device_profile_name": "ba_user2-UDP",
  "reseller_name": "Resell1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
},
{
  "division_name": "Intermed2",
  "username": "",
  "location_name": "Site2",
  "hierarchy": "sys.822AF46F8FD3.Prov2.Resel2.Cust2.Intermed2.Site2",
  "lines": [],
  "device_type": "Cisco 9971",
  "device_profile_name": "ba_user3-UDP",
  "reseller_name": "Resel2",
  "provider_name": "Prov2",
  "customer_name": "Cust2"
}
]

```

### 2.3.8. 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 AND SOURCE FIELD	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 data/GS_FMC_UserExtended_DAT.username	string	v2
destination	The mobile number associated with CIM device data/GS_FMC_UserExtended_DAT.fmc.mobile	string	v2
fmc_enabled	An indication of whether fixed mobile convergence is enabled for the destination data/GS_FMC_UserExtended_DAT.fmc.enabled	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
  }
]
```

### 2.3.9. 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) device/cucm/HuntPilot.pattern	string	v1
E164	the external number (Full E164 format) assigned as the pilot for the hunt group (as configured in the PBX) device/cucm/HuntPilot.pattern	string	v1
lines	Array of objects containing line information device/cucm/LineGroup	array	v1
lines.cucm_dn	Internal Number assigned to the device profile (as configured in the PBX) device/cucm/LineGroup.members.member.directoryNumber.pattern	string	v1
lines.line_group_name	Name of the line group device/cucm/LineGroup.members.member.name	string	v2
E164Members	Array of E164 numbers and ranges assigned to pilot_number in the case of N-1 mapped lines	string	v4
E164Members.e164_number	E164 number in the case of N-1 mapped lines	string	v4
E164Members.e164_range	E164 range of E164Members.e164_number in the case of N-1 mapped lines	string	v4
partition	The route partition to which the Hunt Pilot number belongs device/cucm/HuntPilot.routePartitionName	string	v2

### Example

```
[
{
  "division_name": "Intermed1",
  "location_name": "Site1",
  "hierarchy": "sys.57C1130EED66.Prov1.Resell1.Cust1.Intermed1.Intermed1_1.Site1",
  "lines": [
    {
      "cucm_dn": "HuntList1LineGroup1DirectoryNumber1Pattern",
      "line_group_name": "HuntList1LineGroup1"
    },
    {
      "cucm_dn": "HuntList1LineGroup1DirectoryNumber2Pattern",
      "line_group_name": "HuntList1LineGroup1"
    },
    {
      "cucm_dn": "HuntList1LineGroup2DirectoryNumber1Pattern",
```

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```

    "line_group_name": "HuntList1LineGroup2"
  },
  {
    "cucm_dn": "HuntList1LineGroup2DirectoryNumber2Pattern",
    "line_group_name": "HuntList1LineGroup2"
  }
],
"partition": "RoutePartition1",
"hunt_group_name": "HuntList1",
"E164": "E164AssocDAT1",
"reseller_name": "Resell",
"pilot_number": "PTCHuntPilot1",
"provider_name": "Prov1",
"customer_name": "Cust1"
},
{
  "division_name": "",
  "location_name": "",
  "hierarchy": "sys.57C1130EED66.Prov2.Resel2.Cust2",
  "lines": [],
  "partition": "",
  "hunt_group_name": "HuntList2",
  "E164": "E164AssocDAT2",
  "reseller_name": "Resel2",
  "pilot_number": "2222",
  "provider_name": "Prov2",
  "customer_name": "Cust2"
},
{
  "division_name": "Intermed1",
  "location_name": "Site1",
  "hierarchy": "sys.57C1130EED66.Prov1.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
  "lines": [],
  "E164Members": [
    {
      "e164_number": "\\+495557000",
      "e164_range": "10"
    }
  ],
  "partition": "",
  "hunt_group_name": "HuntList3",
  "E164": "\\+495557000",
  "reseller_name": "Resell",
  "pilot_number": "8217500",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]

```

### 2.3.10. Hybrid Data Export

Filename: <YYYY-MM-DD\_HHMM>\_hybrid.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v4
reseller_name	Name of the Reseller	string	v4
customer_name	name of the customer	string	v4
hierarchy	The full hierarchy path for the item being exported	string	v4
username	First name of user	string	v4
service_type	Hybrid type	string	v4
lines	array of lines, CoS	array	v4

Example

```
[
  {
    "username": "user_1",
    "hierarchy": "sys.9F73F4303A93.Provider1Hierarchy.Reseller1Hierarchy.
↪Customer1Hierarchy",
    "lines": [
      {
        "e164": "\\+441184025574",
        "class_of_service": "International-24Hrs-Enhanced",
        "extension": "8445574"
      },
      {
        "e164": "\\+441184025576",
        "class_of_service": "International-24Hrs-Enhanced",
        "extension": "8445576"
      }
    ],
    "service_type": "Cisco-MS",
    "reseller_name": "Reseller1Hierarchy",
    "provider_name": "Provider1Hierarchy",
    "customer_name": "Customer1Hierarchy"
  }
]
```

### 2.3.11. Line Data Export

(New report in version 2)

Filename: <YYYY-MM-DD\_HHMM>\_line.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/cucm/Line.pattern	string	v2
partition	The route partition to which the number belongs device/cucm/Line.routePartitionName	string	v2
description	Description of the directory number and partition device/cucm/Line.description	string	v2
calling_search_space	This is mapped to the shareLineAppearanceCssName of the line device/cucm/Line.shareLineAppearanceCssName	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",
    "cucm_dn": "50409",
    "partition": "Cu1-AllowVm-PT",
    "description": "Front Desk",
    "calling_search_space": "Cu1-ANumAnaly-CSS"
  }
]
```



### 2.3.12. Phones Data Export

Filename: <YYYY-MM-DD\_HHMM>\_phones.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/cucm/User.userid	array	v1
device_name	the name of the device (includes mac address if hardphone, softclients no mac) device/cucm/Phone.name	string	v1
description	Text field attached to the device device/cucm/Phone.description	string	v3
device_type	the model of the phone device/cucm/Phone.product	string	v1
device_css	Calling search space of the phone device/cucm/Phone.callingSearchSpaceName	string	v2
lines	Array of objects containing line information device/cucm/Phone.lines.line	array	v1
lines.line_order	Line index. device/cucm/Phone.lines.line.index	integer	v2
lines.cucm_dn	Internal Number assigned to the device profile (as configured in the PBX) device/cucm/Phone.lines.line.dirn.pattern	string	v1
lines.E164	External Number (E164 number) assigned to the device profile device/cucm/Phone.lines.line.dirn.pattern	string	v1

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VERSION
E164Members	Array of E164 numbers and ranges assigned to <code>cucm_dn</code> in the case of N-1 mapped lines	string	v4
E164Members.e164_number	E164 number in the case of N-1 mapped lines	string	v4
E164Members.e164_range	E164 range of <code>E164Members.e164_number</code> in the case of N-1 mapped lines	string	v4
owner_username	User ID of the assigned phone user <i>Only in release &gt;= 21.1</i> <code>device/cucm/Phone.ownerUserName</code>	string	v4
add_on_modules	Array of phone addon modules, incl. name, model, position <i>Only in release &gt;= 21.1</i> <code>cache.addOnModules.addOnModule</code>	array	v4

- ELEMENT: `add_on_modules.name`
  - DESCRIPTION: phone addon module name
  - SOURCE FIELD: *Only in release >= 21.1*  
`device/cucm/Phone.addOnModules.addOnModule.loadInformation`
  - DATA TYPE: string
  - VERSION: v4
- ELEMENT: `add_on_modules.model`
  - DESCRIPTION: phone addon module model
  - SOURCE FIELD: *Only in release >= 21.1*  
`device/cucm/Phone.addOnModules.addOnModule.model`
  - DATA TYPE: string
  - VERSION: v4
- ELEMENT: `add_on_modules.position`
  - DESCRIPTION: phone addon module model
  - SOURCE FIELD: *Only in release >= 21.1*  
`device/cucm/Phone.addOnModules.addOnModule.index`
  - DATA TYPE: integer
  - VERSION: v4

Example:

```
[
{
  "division_name": "Intermed1",
  "usernames": [
    "slp1_user1"
  ],
  "location_name": "Site1",
  "description": "slp1_desc",
```

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```

    "hierarchy": "sys.AB707E3E6FC2.Prov1.Resell1.Cust1.Intermed1.Intermed1_1.Site1",
    "lines": [
      {
        "line_order": 0,
        "cucm_dn": "11111",
        "E164": "s1p111_e164"
      }
    ],
    "add_on_modules": [
      {
        "position": 0,
        "model": "add_on_module_model-01",
        "name": "add_on_module_info-01"
      }
    ],
    "device_type": "slp1_product_value",
    "reseller_name": "Resell1",
    "provider_name": "Prov1",
    "device_name": "slp1_name",
    "device_css": "slp1_css",
    "customer_name": "Cust1"
  },
  {
    "division_name": "Intermed1",
    "usernames": [],
    "location_name": "Site1",
    "description": "",
    "hierarchy": "sys.AB707E3E6FC2.Prov1.Resell1.Cust1.Intermed1.Intermed1_1.Site1",
    "lines": [],
    "add_on_modules": [],
    "device_type": "slp2_product_value",
    "reseller_name": "Resell1",
    "provider_name": "Prov1",
    "device_name": "slp2_name",
    "device_css": "slp2_css",
    "customer_name": "Cust1"
  },
  {
    "division_name": "Intermed2",
    "usernames": [
      "s2p1_user1",
      "s2p1_user2"
    ],
    "location_name": "Site2",
    "description": "",
    "hierarchy": "sys.AB707E3E6FC2.Prov2.Resell2.Cust2.Intermed2.Site2",
    "lines": [
      {
        "line_order": 1,
        "cucm_dn": "33333",
        "E164": "s2p111_e164"
      },
      {
        "line_order": 2,
        "cucm_dn": "44444",
        "E164": ""
      }
    ]
  }

```

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```
    }  
  ],  
  "add_on_modules": [],  
  "device_type": "s2p1_product_value",  
  "reseller_name": "Resel2",  
  "provider_name": "Prov2",  
  "device_name": "s2p1_name",  
  "device_css": "s2p1_css",  
  "customer_name": "Cust2"  
}  
]
```

### 2.3.13. Site Data Export

Filename: <YYYY-MM-DD\_HHMM>\_site.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/hcmf/Customer.contactAddress1	string	v1
customer_address2	Address string 2 for the customer device/hcmf/Customer.contactAddress2	string	v1
customer_address3	Address string 3 for the customer	string	v1
location_address1	Address string 1 for the site data/BaseSiteDAT.Address1	string	v1
location_address2	Address string 2 for the site data/BaseSiteDAT.Address2	string	v1
location_address3	Address string 3 for the site data/BaseSiteDAT.Address3	string	v1
emergency_number	External emergency callback number assigned to the site data/DpSite.emerNumber	string	v1
ndl	The NDL name that the site uses data/Ndl.ndl.name	string	v1
inter_site_prefix	Digit dialled to prefix intersite calls (if the dial plan is setup that way) data/DpCustomer.isp	string	v1
external_access_prefix	Digit dialled to make external calls (if the dial plan is setup that way) data/DpSite.ext	string	v1
site_code	Dial Plan site code assigned to the site (if the dial plan is setup that way) data/DpSite.slc	string	v1
published_number	External published callback number assigned to the site data/DpSite.pubNumber	string	v1
country_code	Country code identifying the site data/Countries.international_dial_code	string	v1

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VER.
external_id	An externally defined ID for the site device/hcmf/CustomerLocation.externalID OR data/GS_LinkedSiteData_DAT.externalID	string	v2
extended_name	An expanded name for the site device/hcmf/CustomerLocation.extendedName OR data/GS_LinkedSiteData_DAT.extendedName	string	v2

- ELEMENT: voice\_bandwidth
  - DESCRIPTION: voice bandwidth allocation for the site
  - SOURCE FIELD: device/cucm/Location.betweenLocations.betweenLocation.audioBandwidth
  - DATA TYPE: string
  - VERSION: v1
- ELEMENT: video\_bandwidth
  - DESCRIPTION: video bandwidth allocation for the site
  - SOURCE FIELD: device/cucm/Location.betweenLocations.betweenLocation.videoBandwidth
  - DATA TYPE: string
  - VERSION: v1

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",
    "inter_site_prefix": "",
    "site_code": "",
    "video_bandwith": "",
    "emergency_number": "",
    "voice_bandwith": "",
    "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"
  }
]
```

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```

    }
  ]

```

### 2.3.14. Subscriber Data Export

Filename: <YYYY-MM-DD\_HHMM>\_subscriber.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	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 device/cucm/User.userid	string	v1
first_name	First name of the user device/cucm/User.firstName	string	v1
middle_name	Middle name of the user device/cucm/User.middleName	string	v3
last_name	Last name of the user device/cucm/User.lastName	string	v1
email	email address of the user device/cucm/User.mailid	string	v1

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VERSION
entitlement_profile	the profile assigned to the user that defines the features they are enabled to have configured <i>release 19.3.4</i> data/HcsUserProvisioningStatusDAT.entitlement_profile <i>release &gt;= 21.1</i> data/User.entitlement_profile or data/HcsUserProvisioningStatusDAT.entitlement_profile	string	v1
role	The role assigned to the user - defines privileges in the portal data/User.role	string	v1
credential_policy	The security profile assigned to the user - defined credential and other security rules for portal access data/User.account_information.credential_policy	string	v1
snr	Does the user have the SNR service configured device/cucm/RemoteDestinationProfile.userId	boolean	v1
voicemail	Does the user have a voicemail box configured device/cuc/User.Alias	boolean	v1
title	Subscriber's title <i>release 19.3.4</i> data/NormalizedUser.title <i>&gt;= release 21.1</i> data/User.title or data/NormalizedUser.title	string	v2

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VERSION
department	Subscriber's department device/cucm/User.department	string	v2
telephone_number	Subscriber's telephone number as configured in the CUCM user record device/cucm/User.telephoneNumber	string	v2
pager_number	Subscriber's pager number device/cucm/User.pagerNumber	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",
```

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```

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

```

### 2.3.15. 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 device/spark/User.firstName	string	v2.2
lastName	Last name of user device/spark/User.lastName	string	v2.2
email	User email address device/spark/User.email	string	v2.2
line	User line device/spark/User.line	string	v2.2
messaging	Webex Teams Messaging	boolean	v2.2
status	Webex Teams user status device/spark/User.status	string	v2.2
services	Webex Teams services:	dictionary	v2.2
	<ul style="list-style-type: none"> <li>• hybrid_call_services</li> <li>• hybrid_calendar_services</li> </ul> device/spark/User.services	<ul style="list-style-type: none"> <li>• string</li> <li>• string</li> </ul>	

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

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
hybrid_call_services:			v2.2
connect	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 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.	boolean	v2.2

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
hybrid_calendar_services:			v2.2
google	Google Calendar	boolean	v2.2
microsoft_exchange	Microsoft Exchange/Office 365	boolean	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
webex_enterprise_200		boolean	v2.2
webex_support_center		boolean	v2.2
webex_meeting_center		boolean	v2.2
webex_cmr		boolean	v2.2
webex_event_center		boolean	v2.2
webex_training_center		boolean	v2.2
meeting		boolean	v2.2

### Example

```
[
  {
    "division_name": "",
    "status": "",
    "location_name": "Site_03",
    "firstName": "",
```

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```

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

```

### 2.3.16. MS Office 365 Data Export

Filename: <YYYY-MM-DD\_HHMM>\_ms\_o365.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VERSION
username	username of the user device/msgraph/MsolUser.data/User.username or device/azureadonline/MsolUser.data/User.username	string	v4
first_name	First name of the user device/msgraph/MsolUser.cache.FirstName or device/azureadonline/MsolUser.cache.FirstName	string	v4
last_name	Last name of the user device/msgraph/MsolUser.cache.LastName or device/azureadonline/MsolUser.cache.LastName	string	v4
o365_username	user name on O365 device/msgraph/MsolUser.cache.UserPrincipalName or device/azureadonline/MsolUser.cache.UserPrincipalName	string	v4

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VERSION
display_name	displayed name of user device/msgraph/MsolUser.cache.DisplayName or device/azureadonline/MsolUser.cache.DisplayName	string	v4
is_licensed	User licensing status device/msgraph/MsolUser.cache.IsLicensed or device/azureadonline/MsolUser.cache.IsLicensed	string	v4
licenses	List of licenses device/msgraph/MsolUser.cache.Licenses or device/azureadonline/MsolUser.cache.Licenses	array	v4
licenses.account_sku_id	license SKUId licenses.AccountSkuld	string	v4

### Example

```
[
{
  "username": "user_1",
  "first_name": "FirstName_1",
  "last_name": "LastName_1",
  "display_name": "DisplayName_user_1",
  "hierarchy": "sys.A242BC6E4F94.Prov1.Resell.Cust1",
  "is_licensed": "N",
  "o365_username": "user_1@emailaccount.com",
  "licenses": [
    {
```

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```

        "account_sku_id": "DEVELOPERPACK_E5"
    }
],
"reseller_name": "Resell",
"provider_name": "Prov1",
"customer_name": "Cust1"
},
{
"username": "user_2",
"first_name": "FirstName_2",
"last_name": "LastName_2",
"display_name": "DisplayName_user_2",
"hierarchy": "sys.A242BC6E4F94.Prov1.Resell.Cust1",
"is_licensed": "N",
"o365_username": "user_2@emailaccount.com",
"licenses": [
    {
        "account_sku_id": "DEVELOPERPACK_E5"
    }
],
"reseller_name": "Resell",
"provider_name": "Prov1",
"customer_name": "Cust1"
},
{
"username": "user_3",
"first_name": "FirstName_3",
"last_name": "LastName_3",
"display_name": "DisplayName_user_3",
"hierarchy": "sys.A242BC6E4F94.Prov1.Resell.Cust1",
"is_licensed": "N",
"o365_username": "user_3@emailaccount.com",
"licenses": [
    {
        "account_sku_id": "DEVELOPERPACK_E5"
    }
],
"reseller_name": "Resell",
"provider_name": "Prov1",
"customer_name": "Cust1"
},
{
"username": "user_4",
"first_name": "FirstName_4",
"last_name": "LastName_4",
"display_name": "DisplayName_user_4",
"hierarchy": "sys.A242BC6E4F94.Prov1.Resell.Cust1",
"is_licensed": "N",
"o365_username": "user_4@emailaccount.com",
"licenses": [
    {
        "account_sku_id": "DEVELOPERPACK_E5"
    }
],
"reseller_name": "Resell",
"provider_name": "Prov1",

```

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```
"customer_name": "Cust1"
},
{
  "username": "user_5",
  "first_name": "FirstName_5",
  "last_name": "LastName_5",
  "display_name": "DisplayName_user_5",
  "hierarchy": "sys.A242BC6E4F94.Prov1.Resell.Cust1",
  "is_licensed": "N",
  "o365_username": "user_5@emailaccount.com",
  "licenses": [
    {
      "account_sku_id": "DEVELOPERPACK_E5"
    }
  ],
  "reseller_name": "Resell",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]
```

### 2.3.17. MS Teams Data Export

Filename: <YYYY-MM-DD\_HHMM>\_ms\_teams.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VERSION
ms_teams_username	UserPrincipalName device/msteamsonline/CsOnlineUser.UserPrincipalName	string	v4
alias	user alias device/msteamsonline/CsOnlineUser.Alias	string	v4
username	username of the user data/User.username	string	v4
first_name	First name of user device/msteamsonline/CsOnlineUser.FirstName	string	v4
last_name	Last name of user device/msteamsonline/CsOnlineUser.LastName	string	v4
department	User department device/msteamsonline/CsOnlineUser.Department	string	v4
enterprise_voice	EnterpriseVoiceEnabled device/msteamsonline/CsOnlineUser.EnterpriseVoiceEnabled	string	v4
line	OnPremLineURI device/msteamsonline/CsOnlineUser.OnPremLineURI	string	v4
hosted_voicemail	HostedVoiceMail device/msteamsonline/CsOnlineUser.HostedVoiceMail	boolean	v4
voice_routing_policy	OnlineVoiceRoutingPolicy device/msteamsonline/CsOnlineUser.OnlineVoiceRoutingPolicy	string	v4
tenant_dialplan	TenantDialPlan device/msteamsonline/CsOnlineUser.TenantDialPlan	string	v4
voicemail_policy	HostedVoicemailPolicy device/msteamsonline/CsOnlineUser.HostedVoicemailPolicy	string	v4

### Example

```
[
{
  "username": "user_2",
  "first_name": "FirstName_2",
  "last_name": "LastName_2",
  "enterprise_voice": false,
  "hierarchy": "sys.02676185F05F.Prov1.Resell.Cust1",
  "ms_teams_username": "user_2@emailaccount.com",
  "voicemail_policy": "BusinessVoice",
  "voice_routing_policy": "Global",
  "alias": "user_2",
  "tenant_dialplan": "",
  "department": "R&D",
  "reseller_name": "Resell",
  "provider_name": "Prov1",
  "hosted_voicemail": false,
  "line": "18694400002",
  "customer_name": "Cust1"
},
{
  "username": "user_3",
```

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```

    "first_name": "FirstName_3",
    "last_name": "LastName_3",
    "enterprise_voice": false,
    "hierarchy": "sys.02676185F05F.Prov1.Resell.Cust1",
    "ms_teams_username": "user_3@emailaccount.com",
    "voicemail_policy": "BusinessVoice",
    "voice_routing_policy": "Global",
    "alias": "user_3",
    "tenant_dialplan": "",
    "department": "R&D",
    "reseller_name": "Resell",
    "provider_name": "Prov1",
    "hosted_voicemail": false,
    "line": "18694400002",
    "customer_name": "Cust1"
  },
  {
    "username": "user_1",
    "first_name": "FirstName_1",
    "last_name": "LastName_1",
    "enterprise_voice": false,
    "hierarchy": "sys.02676185F05F.Prov1.Resell.Cust1",
    "ms_teams_username": "user_1@emailaccount.com",
    "voicemail_policy": "BusinessVoice",
    "voice_routing_policy": "Global",
    "alias": "user_1",
    "tenant_dialplan": "",
    "department": "R&D",
    "reseller_name": "Resell",
    "provider_name": "Prov1",
    "hosted_voicemail": false,
    "line": "18694400002",
    "customer_name": "Cust1"
  }
]

```

### 2.3.18. MS Exchange Data Export

Filename: <YYYY-MM-DD\_HHMM>\_ms\_exchange.json.gz

Layout:



ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v4
reseller_name	Name of the Reseller	string	v4
customer_name	name of the customer	string	v4
hierarchy	The full hierarchy path for the item being exported	string	v4
username	MS Exchange User Name	string	v4
exchange_mailbox_details	dictionary of permission types	dictionary	v4
exchange_mailbox_details.calendar_permissions	List of calendar permissions	array	v4
calendar_permissions.user	Calendar username	string	v4
calendar_permissions.access_rights	list of calendar permission rights	array	v4
exchange_mailbox_details.permissions	List of permissions	array	v4
permissions.user	Permissions username	string	v4
permissions.access_rights	list of permission rights	array	v4

### Example

```
[
{
  "username": "ms_exchange_user_1@emailaccount.com",
  "hierarchy": "sys.003954111679.Prov1.Resell.Cust1",
  "exchange_mailbox_details": {
    "calendar_permissions": [
      {
        "user": "ms_exchange_user_1",
        "access_rights": [
          "Editor",
          "Publishing Author",
          "Author"
        ]
      }
    ]
  },
  "permissions": [
    {
      "user": "ms_exchange_user_1",
      "access_rights": [
        "FullAccess",
        "SendAs"
      ]
    }
  ]
},
{
  "reseller_name": "Resell",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
},
{
  "username": "ms_exchange_user_2@emailaccount.com",
  "hierarchy": "sys.003954111679.Prov1.Resell.Cust1",
```

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```

"exchange_mailbox_details": {
  "calendar_permissions": [
    {
      "user": "ms_exchange_user_2",
      "access_rights": [
        "Editor",
        "Publishing Author",
        "Author"
      ]
    }
  ],
  "permissions": [
    {
      "user": "ms_exchange_user_2",
      "access_rights": [
        "FullAccess",
        "SendAs"
      ]
    }
  ]
},
"reseller_name": "Resell",
"provider_name": "Prov1",
"customer_name": "Cust1"
}
]

```

### 2.3.19. Pexip Data Export

Filename: <YYYY-MM-DD\_HHMM>\_pexip\_conference.json.gz

Layout:

ELEMENT	DESCRIPTION	DATA TYPE	VERSION
provider_name	Name of the Provider	string	v4
reseller_name	Name of the Reseller	string	v4
customer_name	name of the customer	string	v4
hierarchy	The full hierarchy path for the item being exported	string	v4
name	First name of user	string	v4
description	Last name of user	string	v4
owner_email	User email address	string	v4
type	service type	string	v4

Example

```

[
  {
    "name": "user_1",
    "hierarchy": "sys.0ECD98831FCF.Provider1Hierarchy.Reseller1Hierarchy.
↪Customer1Hierarchy",

```

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```

    "description": "Description_PexIp_1",
    "owner_email": "user_1@dummy-emailaccount.com",
    "reseller_name": "Reseller1Hierarchy",
    "provider_name": "Provider1Hierarchy",
    "type": "conference",
    "customer_name": "Customer1Hierarchy"
  }
]

```

### 2.3.20. VOSS Phone Servers Data Export

Filename: <YYYY-MM-DD\_HHMM>\_voss\_phone\_servers.json.gz

Layout:

ELEMENT	DESCRIPTION AND SOURCE FIELD	DATA TYPE	VERSION
mac	MAC address of phone server data/PRS_MultiVendorPhone_DAT.mac	string	v4
phone_vendor	Vendor name data/PRS_MultiVendorPhone_DAT.phoneVendor	string	v4
phone_model	Model Name data/PRS_MultiVendorPhone_DAT.phoneModel	string	v4
lines	Lines names and CoS	array	v4
lines.name	Lines names data/PRS_MultiVendorPhone_DAT.line1Name data/PRS_MultiVendorPhone_DAT.line2Name	array	v4
lines.class_of_service	Lines CoS's data/PRS_MultiVendorPhone_DAT.line1Cos data/PRS_MultiVendorPhone_DAT.line2Cos	array	v4

Example

```

[
  {
    "phone_model": "Cisco 6921",
    "hierarchy": "sys.F28DA5B756D7.Prov1.Resell.Cust1",
    "lines": [
      {
        "class_of_service": "International-24Hrs-Enhanced",
        "name": "8445574"
      },
      {
        "class_of_service": "International-24Hrs-Enhanced",
        "name": "8445576"
      }
    ],
    "mac": "2C:54:91:88:C9:02",
    "phone_vendor": "Cisco",
    "reseller_name": "Resell",

```

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```

"provider_name": "Prov1",
"customer_name": "Cust1"
},
{
  "phone_model": "Cisco 6921",
  "hierarchy": "sys.F28DA5B756D7.Prov1.Resell.Cust1",
  "lines": [
    {
      "class_of_service": "International-24Hrs-Enhanced",
      "name": "8445574"
    },
    {
      "class_of_service": "International-24Hrs-Enhanced",
      "name": "8445576"
    }
  ],
  "mac": "2C:54:91:88:C9:01",
  "phone_vendor": "Cisco",
  "reseller_name": "Resell",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]

```

## 2.4. Appendix

### 2.4.1. Network Communications External to the Cluster

The following details are all based on the default settings. These can vary depending on the application setup and network design (such as NAT) of the solution, so may need adjustment accordingly. Where a dependant is noted, this is fully dependant on the configuration with no default.

These communications are all related to communications with devices external to the cluster.

#### Outbound Communications to Devices from the Application/Unified Nodes

Communication	Protocol	Port
Cisco Unified Communications Manager (UCM)	HTTPS	TCP 8443
Cisco Unity Connection (CUXN)	HTTPS	TCP 443
Webex	HTTPS	TCP 443
LDAP directory	LDAP	TCP/UDP 389 and/or 636(TLS/SSL)
Cisco HCM-F	HTTPS	TCP 8443
MS PowerShell Proxy Node	HTTP, HTTPS	TCP 5985, 5986

**Outbound to External Systems from the Proxy Node**

<b>Communication</b>	<b>Protocol</b>	<b>Network Protocol and Port</b>
API Sync and Async responses	HTTPS	TCP 443
Northbound Notification messages	HTTPS	dependant
Microsoft 365/Online	HTTP HTTPS	80 443
VOSS Cloud Licensing Service	HTTP HTTPS	80 443

**Outbound to External Systems from All Nodes**

<b>Communication</b>	<b>Protocol</b>	<b>Port</b>
SNMP	SNMP	TCP/UDP 162
SFTP as required for backup destinations	SFTP	TCP 22
NTP	NTP	UDP 123

**Inbound Communications From External Systems to the Proxy Node**

<b>Communication</b>	<b>Protocol</b>	<b>Port</b>
Web Access	HTTPS	TCP 443
API Request	HTTPS	TCP 443

**Inbound Communications to All Nodes**

<b>Communication</b>	<b>Protocol</b>	<b>Port</b>
SSH and SFTP for management and files transfers	SFTP/SSH	TCP/UDP 22

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