# VOSS Automate Licensing and Subscriber Data Export Guide

Release 25.3

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# Contents

# 1. What's New

## 1.1. Licensing and Subscriber Data Export Guide: Release 25.3

- EKB-26046: SDE: Add Phone number for Webex Workspaces. See: *Webex Devices Data Export*
  Webex Workspaces data export now also includes phone number and extension.
- EKB-26046: SDE: Add Phone number for Webex Workspaces. See: *Webex Workspaces Data Export*
  Webex Workspaces data export now also includes phone number and extension.
- VOSS-1464: System User Audit and cleanup process. See: *Process Command Details*
  Added details on the new user audit feature
- VOSS-1464: System User Audit and cleanup process. See: *System User Audit*
  Added details on the new user audit feature

# 2. Licensing

The VOSS Automate licensing capability enables the calculation of user, services and devices license consumption from within the Automate product as well as the generation of the audit files required to report the consumption. This comprises of two separate key processes:

1. License counting - process to calculate and record license usage in the system
2. License audit report - produces export file(s) to enable collection of the license audit data

The processes are separate so that they can run at different times and frequencies. The overall process includes automatically created and enabled schedules out of the box - to coordinate as required - see the details below.

However, if you need to run either or both of the processes manually, you will need to consider what you need. For instance, if you need to simply only update the counts (so you can view them in the admin portal), then you only need to run the license counting. If you need to refresh the counts as well as generate the audit file, then both processes will need to be run.

For Licensing v4 Guide, see: PDF

## 2.1. License Count

The license counting process is independent from writing the file and runs on its own schedule:

- This includes overall license counts as well as which users are consuming a license in the system
- Enables the license consumption to be viewed in the system via the admin portal
- Runs daily at 1AM UTC- this schedule is created and activated automatically.
- Can also be run manually via CLI as needed outside the schedule – can choose a hierarchy to run it for (e.g just part of the system) - see: *License Counting process commands*.
- For full details on the license counting, see *Viewing License Audit Counts*.

## 2.2. View license audit status and license counts

The results of the last license counting process can be viewed via the Automate Admin portal. This includes overall license counts as well as which users are consuming a license in the system.:

- View user license status

  You can view a user's license status as a read-only value in the **License Audit Status** field of the **Users** list view (default menus, **User Management > Users**, model `data/User`) or when viewing and editing a user. The linked services details indicate the services the user is consuming.

A user's license status may be one of the following:

- Licensed - consuming a license
- Unlicensed - not consuming a license
- Unknown - status not yet determined yet, which typically means the user was added since the last calculation was run

**Note:** Values for **License Audit Status** display only after the first run of the license-audit-service.

- Overall License counts - **License Counts** from the **About** menu (`data/LicenseAuditCounts` model).

## 2.3. License audit report

The process to generate the license audit report is independent from the counting of the licenses. This process simply takes the results of the counting process recorded and writes them to the appropriate files.

- Runs monthly at 3AM UTC on the first day of each month - this schedule is created and activated automatically.
- How the generated file(s) are handled will depend on the setup on your system - see *Distributing Licensing Reports*. This outlines the numerous options to set up the platform to automatically send files off the system to required destination(s) or alternate ways to access the files as required.
- This takes the data recorded by the license counting process above and writes it to a file
- The format of the file and the contents are outlined in *License Audit Report File Details*.
- Files are retained on the system for two years and are automatically removed at the end of this period.

The files generated provides 2 views of the data (different CSV files):

1. Anonymous - Aggregated counts and other data required for billing. The tool does not collect any data identifying users or customers on the system. This file is typically sufficient to provide VOSS for billing purposes.
2. Detailed- As above, except that it includes identifying information about the customers instead of IDs. This same data can be viewed through the admin portal as noted above. This file may need to be shared with VOSS depending on your agreement.

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. This is why automated delivery of the file is recommended as outlined in *Distributing Licensing Reports*.

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## 2.4. License Audit Report File Details

The License Audit Report process will generate the following ZIP file types as output:

- license_detailed

  Specifically contains:

  - detailed - CSV file - anonymous version of the license audit report file - details below

- license

  Specifically contains:

  - anonymous - CSV file - anonymous version of the license audit report file - details below

Both ZIP files contain:

- anonymous `_breakdown` - csv file - anonymous file containing a few key statistics from the platform - used for support purposes
- patch - JSON file - list of patches applied to the system as shown **About > Extended Version** - used for support purposes
- `adaptation_log` - JSON file - list of adaptations applied on the system as shown in **About > Adaptation Status** - used for support purposes.
- `.hash` for each included file - to validate the file

All filenames are of the format:

`vlf_<provider_name>_<host_name>_<file_type>_<YYYY-MM-DD_HHMM>`

E.g. `vlf_CS-P_VOSS_detailed_2024-03-05_1958`

See also: *Distributing Licensing Reports*.

### 2.4.1. Detailed and Anonymous License Audit Report file format

#### Detailed

The detailed version is a CSV file containing the hierarchy names for ease of understanding the data.

The header of the file contains metadata about the platform the file was generated on such as platform IDs, licensing info, version, and other similar data.

The main content of the file is an export of the Overall License count data as available via the admin portal. For details of the counting for each column, see *Viewing License Audit Counts*.

An example of the file:

```
#OrgID=
#Platform ID=67d0bba368c7ef880c8571d1
#hostname=python
#Provider Name=CS-P
#Software Version=pre-release.25.1.build-198
#Platform Version=25.1.0-1741721622
#Deployment Mode=Provider
#License Token=<license-token-not-found>
```

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```
#License Expiry=<license-expiry-not-found>
#Date Time=2025-03-18 13:08
#Audit Version=5.2.0
Provider,Reseller,Customer,Provider PKID,Customer PKID,User Licenses,Contact Center␣
↪Express,Cisco and MS Integrated Services,Contact Center User Webex,Standalone Devices,
↪Meeting Rooms,Voss Phone Servers,Sites
CS-P,,,67d0d83e39e7e759c8a78048,,0,0,0,0,0,0,0,0
CS-P,CS-NB,AAAGlobal,67d0d83e39e7e759c8a78048,67d0d8c739e7e759c8a78b32,144,0,0,0,103,0,0,
↪11
CS-P,CS-NB,NBIcorp,67d0d83e39e7e759c8a78048,67d0e20a39e7e759c8a8b337,0,0,0,0,0,0,0,4
CS-P,CS-NB,Overton,67d0d83e39e7e759c8a78048,67d11bc239e7e759c8ae8f2a,13,0,0,0,13,0,0,6
CS-P,,GeoLogic,67d0d83e39e7e759c8a78048,67d0d91d39e7e759c8a78d66,0,0,0,0,0,0,0,5
```

**Note:** For licensing:

- `OrgID` is the account id from the Customer Portal: **Company Information**.

### Anonymous

Filename format:

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

The anonymous version of the file contains a slightly modified version of the detailed file removing the hierarchy names and replacing it with a customer pkid. The rest of the file content is the same as the detailed version outlined above. For more details on the hierarchy differences - see *Viewing License Audit Counts*. Here is an example of the anonymous file:

```
#OrgID=
#Platform ID=67d0bba368c7ef880c8571d1
#hostname=python
#Provider Name=CS-P
#Software Version=pre-release.25.1.build-198
#Platform Version=25.1.0-1741721622
#Deployment Mode=Provider
#License Token=<license-token-not-found>
#License Expiry=<license-expiry-not-found>
#Date Time=2025-03-18 13:08
#Audit Version=5.2.0
Provider PKID,Customer PKID,User Licenses,Contact Center Express,Cisco and MS Integrated␣
↪Services,Contact Center User Webex,Standalone Devices,Meeting Rooms,Voss Phone Servers,
↪Sites
67d0d83e39e7e759c8a78048,,0,0,0,0,0,0,0,0
67d0d83e39e7e759c8a78048,67d0d8c739e7e759c8a78b32,144,0,0,0,103,0,0,11
67d0d83e39e7e759c8a78048,67d0e20a39e7e759c8a8b337,0,0,0,0,0,0,0,4
67d0d83e39e7e759c8a78048,67d11bc239e7e759c8ae8f2a,13,0,0,0,13,0,0,6
67d0d83e39e7e759c8a78048,67d0d91d39e7e759c8a78d66,0,0,0,0,0,0,0,5
```

**Note:** Refer to the detailed notes following the table below for additional information.

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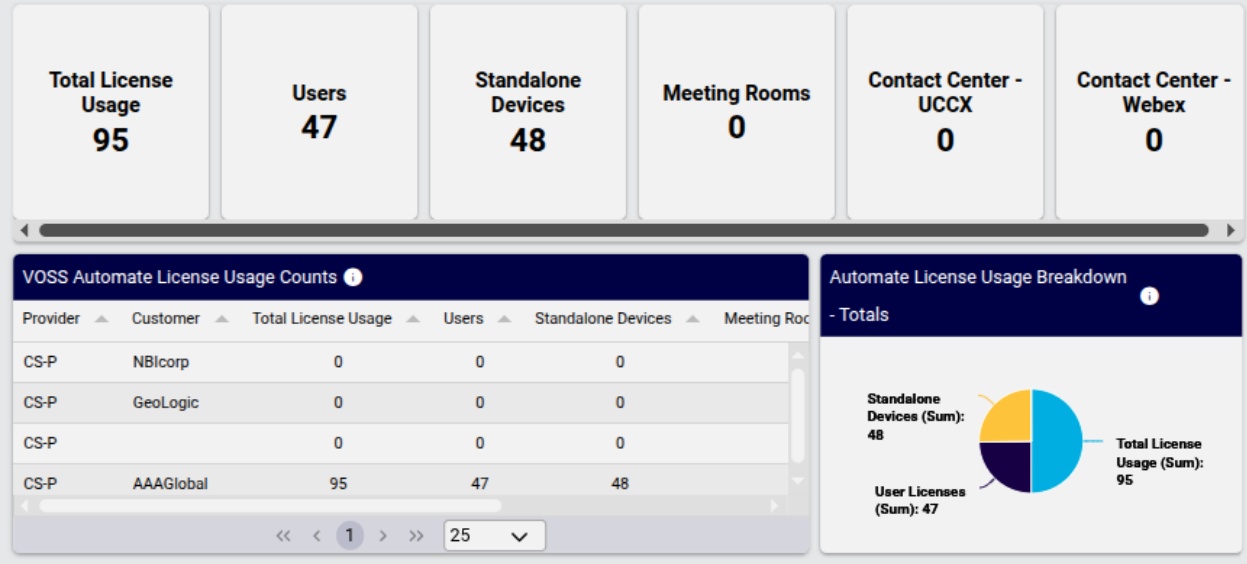
### Acronyms

- 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

## 2.5. Viewing License Audit Counts

The total count for licenses used and an overall total of licenses consumed can be seen from the **Automate - VOSS License Overview** dashboard, available from the **About** menu.




### 2.5.1. Licensing Audit Field Details

The table below provides details of the fields shown in license reports and CSV files, in particular, fields used for the calculation of users, devices, as well as count totals.

**Note:** The descriptions here are based on the standard VOSS license definition and may be different based on your contracted terms. Information only fields are not included in license usage calculation. All other fields are counted at license usage and included in the **Total License Usage** column.

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To download this table as a CSV sheet, refer to the HTML version of this document.

Table 1: Licensing Audit Field Details Sheet

| Column | Description |
|---|---|
| Cisco and MS Integrated Services | Cisco and Microsoft Integrated Service license count for this hierarchy. This is an information only field. |
| Cisco Standalone Phones | The Cisco standalone phone count for this hierarchy. |
| Cisco Voicemail Users | The Cisco Voicemail user count for this hierarchy. |
| Cisco Voice Users | The Cisco Voice user count for this hierarchy. |
| Contact Center Express | The Cisco Unified Contact Centre Express user license count for this hierarchy. |
| Contact Center User Webex | The Contact Center User Webex license count for this hierarchy. |
| Customer | Customer |
| Customer PKID | Customer hierarchy pkid on the system |
| Meeting Rooms | Meeting Room license count for this hierarchy. |
| Microsoft Meeting Rooms | The Microsoft Meeting Room count for this hierarchy. |
| MS Exchange Users | The MS Exchange user count for this hierarchy. This is an information only field |
| MS Online Users | The MS Online user count for this hierarchy. This is an information only field |
| MS Teams Voice Users | The MS Teams voice user count for this hierarchy. This is an information only field |
| Provider PKID | Provider PKID |
| Provider | Provider |
| Reseller | Reseller |
| Sites | The site count for this hierarchy. This is an information only field |
| Standalone Devices | Standalone Device license count for this hierarchy. |
| Timestamp | The timestamp when the counts were created. |
| Total License Usage | This is a total of the usage values that count towards overall License usage to give an indication of usage total on the system. This includes the columns: User Licenses, Contact Center Express, Contact Center User Webex, Standalone Devices, Meeting Rooms, and Voss Phone Servers. Note - this total includes different license types depending on your contract (e.g UC users, CX users, Meeting Rooms, etc) and may not match the License total invoiced due to various other terms of your contract. |
| User Licenses | The user license count for this hierarchy. |
| Voss Phone Servers | Voss Phone Server license count for this hierarchy. |
| Webex Calling Users | The Webex Calling user count for this hierarchy. |
| Webex UCM Calling Users | The Webex UCM Calling user count for this hierarchy. |
| Webex Users | The Webex user count for this hierarchy. |
| Webex Workspaces | The Webex Workspace count for this hierarchy. |
| Netflow Devices | For standalone Netflow deployments. Count of device model device/netflow/Device. |

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**Table 1 – continued from previous page**

| Column | Description |
|---|---|
| Netflow Flows | For standalone Netflow deployments. Where Data Source type is netflow, the flow count of monthly flows (sum of all flows in a calendar month) for each DS9. |

## 2.6. Process Command Details

As highlighted in the overview, both the license counting and license audit report processes will automatically run regularly on a schedule. In the event a manual run of the license counting or license audit report process is required (adhoc data between schedules, or schedule failure), the commands can be run via the VOSS CLI.

This section provides additional details of actions and behavior of the processes as well the details of the commands to run them manually as needed.

### 2.6.1. License Counting process commands

This will only update the license counts captured (`data/LicenseAuditCounts`) and visible in the admin portal **About > License Counts** menu. If you want to generate the license audit report, then that process will also need to be run.

When the command runs (either manual or via schedule) the following behavior is invoked:

- An entry will exist in the counts for each customer in the system - the count record is created at the customer level in the hierarchy. That record is updated during each run of the audit while new records are created for any new customers since the last audit. The record is removed when the customer is removed from the product.
- Any resources (Users, devices, etc) above the customer level will be captured in an entry at the provider level then handled similarly to the customer record above.
- An error will be generated if no provider or customer hierarchy exists in the system
- There is a “cool down” period of 3 minutes during which the command cannot be re-run.
- There is a time-out period of 120 minutes after which a running command execution will stop - for situations where an error occurs. A log entry is also added in this case.
- When the license counting runs manually or on a schedule, *and* if the global system level settings for Automate called **Enable or disable system user audit** is enabled (by default not enabled), a user audit process is executed to audit and synchronize Automate user data across multiple systems that may be connected, such as: LDAP, Cisco UCM, Cisco Unity Connection (CUC), MS 365, Webex Teams and MS Teams. For details on this audit process, see: *System User Audit*.

To run this command via the platform CLI:

```
voss license-audit-counting [--from-hierarchy-pkid <optional hierarchy pkid>]
```

You can optionally provide a hierarchy pkid for the license counting process to run at (e.g for a specific customer, or reseller and its customers).For instance

```
voss license-audit-counting --from-hierarchy-pkid 64d409101a27f48dbce445b7
```

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In this case, only the customer record(s) under the hierarchy with the pkid `64d409101a27f48dbce445b7` will be processed. This is useful if you are testing or only need to update a specific hierarchy level between schedules.

Example output:

```
$ voss license-audit-counting
Executing the License Audit counting service...
The License Audit counting command took '7.3950326209997' seconds to execute.
The License Audit counting service completed successfully.
```

### 2.6.2. License Audit Reporting process commands

This will only export to file the current license counts captured (`data/LicenseAuditCounts`) and visible in the admin portal **About > License Counts** menu. If you want to update the counts before you generate the export file, then the license count process should be run first.

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

To run this command via the platform CLI:

`voss export type license_audit`

When the command runs (either manual or via schedule) the behavior is as outlined in *License audit report* in terms of generating and handling the files.

Example output:

```
$ voss export type license_audit
Starting license_audit export, please wait...
Completed license_audit export, created vlf_CS-P_VOSS_license_2024-02-21_0553.zip, vlf_
↪CS-P_VOSS_detailed_2024-02-21_0553.csv.
```

## 2.7. Distributing Licensing Reports

As part of the license reporting process, the product has multiple options to enable sending the generated license report files automatically and/or to make them available via the admin portal. This simplifies the collection of the files for internal use as well as sending to VOSS as required. It is highly recommended that at least one of the options is set up to make the process of file collection/sharing easier in the environment.

The easiest and most recommended approach to sharing the file with VOSS is to utilize the **VOSS Cloud Licensing Service**. This process will register your platform which streamlines support engagement but also will automate the license audit collection required. This can be used in conjunction with the other automatic file sending options for internal use as needed. However if this is not possible, there are a number of other options to still streamline getting the file which can then be sent on to VOSS.

As a reminder, for internal use, the license audit data can be reviewed via the admin portal and does not require the files to be viewed.

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Further details are available in Viewing License Audit Counts in the Licensing and Subscriber Data Export Guide.

In order to set up automated handling of the generated license audit report, the summary of steps are:

1. Decide the destination(s) and the file for each destination
2. Set up the destinations and related configuration
3. Validate that the destinations are utilized when the file is generated (via schedule or adhoc).

In the event that it is required, you can also access the files via SFTP to the platform:

- 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)

### 2.7.1. 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:

- **VOSS Cloud Licensing Service** (recommended)
  - Automatically upload license audit files to the VOSS Customer Portal - see: *VOSS Cloud Licensing Service*.
- **Email Destinations**
  - Requires an SMTP server configured on the **SMTP Server** menu. (*Add a 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.

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  - 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
- **Web Proxies**
  - Proxy setup for delivery methods using web proxies - see: *Set up a Web Proxy*.

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 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>_anonymous_<YYYY-MM-DD_HHMM>.csv.hash`

       The files with `_breakdown_` in the name refer to Microsoft license usage.

       * `vlf_<provider_name>_<host_name>_anonymous_breakdown_<YYYY-MM-DD_HHMM>.csv`
       * `vlf_<provider_name>_<host_name>_anonymous_breakdown_<YYYY-MM-DD_HHMM>.csv.hash`

       Additional files:

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

     - `Detailed ZIP` (file format: `vlf_<provider_name>_<host_name>_license_detailed_<YYYY-MM-DD_HHMM>.zip`)

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

       * `vlf_<provider_name>_<host_name>_detailed_<YYYY-MM-DD_HHMM>.csv`
       * `vlf_<provider_name>_<host_name>_detailed_<YYYY-MM-DD_HHMM>.csv.hash`

       The files with `_breakdown_` in the name refer to Microsoft license usage.

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        * `vlf_<provider_name>_<host_name>_anonymous_breakdown_<YYYY-MM-DD_HHMM>.csv`
        * `vlf_<provider_name>_<host_name>_anonymous_breakdown_<YYYY-MM-DD_HHMM>.csv.hash`

      Additional files:

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

### 2.7.2. 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.

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*
- 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.
    - License Count in the Licensing and Subscriber Data Export Guide.

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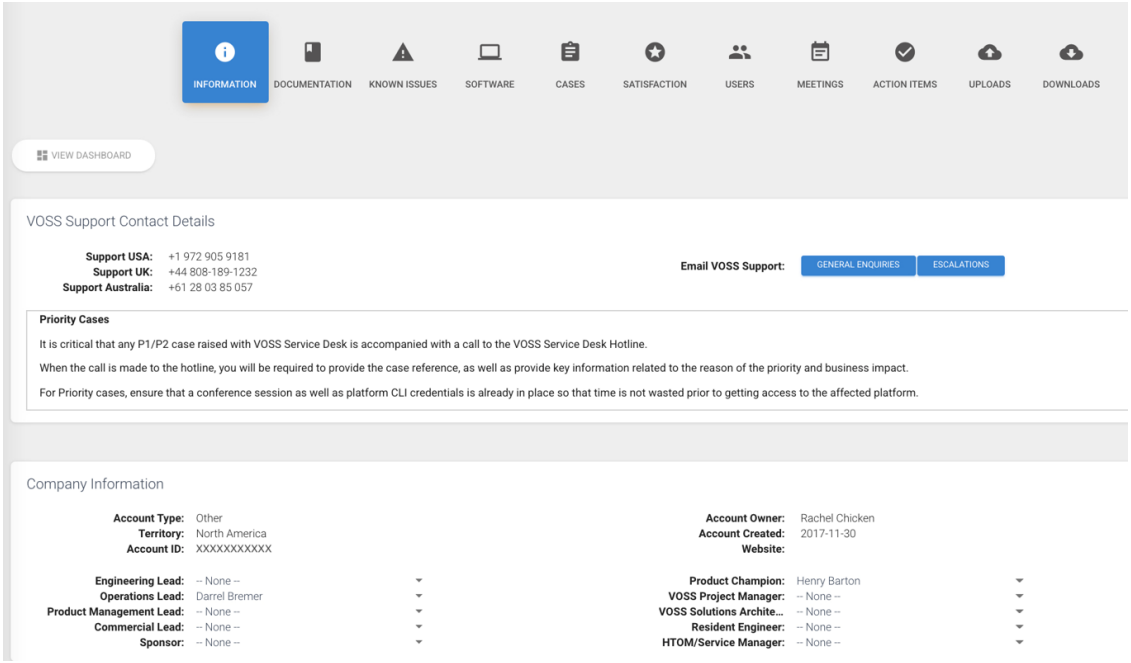
### 2.7.3. Set up the VOSS Cloud Licensing Service

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:
   - On the **Information** tab, locate and copy your **Account ID**.




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

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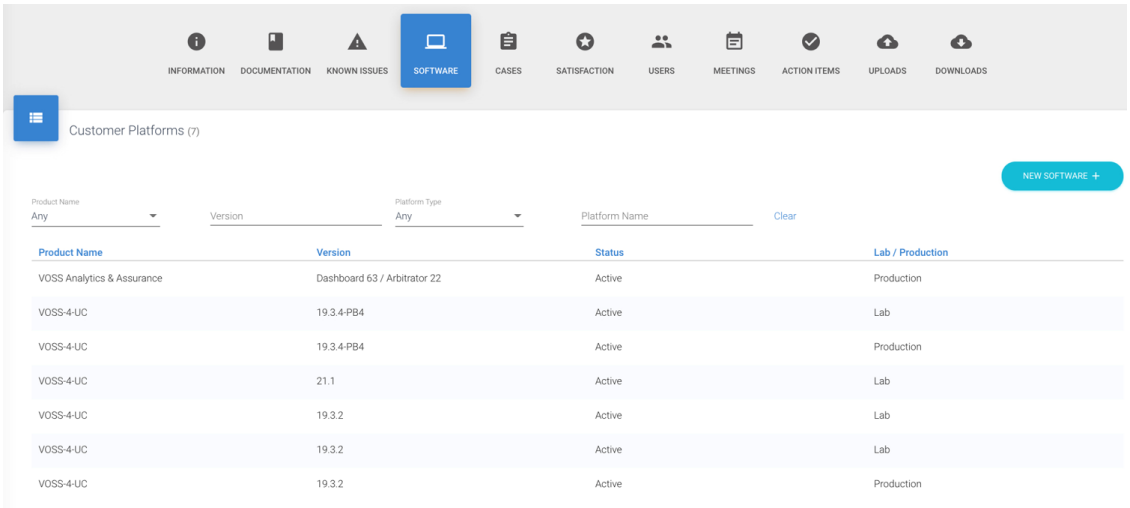


### To add and activate the license

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. `Anonymous ZIP` and `Detailed ZIP` both include 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*.
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.

---

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### 2.7.4. Add a SMTP Server

This procedure adds a SMTP server at a hierarchy level.

**Prerequisites**:

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

**Perform these steps**:

1. Log in to the Admin Portal.
2. Choose the relevant hierarchy.

   **Note:** Configure the SMTP server at the hierarchy where you want to allow VOSS Automate to send email messages.

   You may only set up one SMTP server at each hierarchy level. The SMTP server will be available at the current hierarchy and below. For example, for a SMTP set up at a specific customer, the sites below that customer can use that SMTP server.

3. Go to (default menus) **Apps Management > SMTP Server**.
4. Click the toolbar Plus sign (+) to add a new SMTP server.
5. On the **SMTP Server** form, fill out details for the new SMTP server in the form fields:

| Field | Description |
|---|---|
| Name | The SMTP server name. |
| Description | A description for the email account. |
| Port | The port number. |
| Secure | Relevant only for SSL connections to the SMTP server.<br>Select the checkbox (enable) to use the SSL protocol for connections to the SMTP server.<br>Default is disabled (checkbox is left clear), for TLS and unsecure logins to the SMTP server. |
| Username | The username credential for establishing a connection to the SMTP server. |
| Password | The password credential for establishing a connection to the SMTP server. |

6. Save your changes.

#### Related Topics

- Email in the Core Feature Guide
- Global Settings in the Core Feature Guide

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# 2.8. Set up a Web Proxy

sys-admin

Web Proxies can be added from the **Web Proxies** menu:

- For licensing:

  If your licensing delivery method configuration includes a destination that allows for the selection of a web proxy.

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

  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**.

- For VOSS Wingman:

  To create a web proxy instance to be used in the **Wingman Web Proxy** setting available to `sysadmin` users (default menus, **Administration Menu > Settings**), thereby allowing VOSS Wingman to function in environments that access the internet via an HTTP proxy. The web proxy **Name** will be available to select in the **Wingman Web Proxy** dropdown.

  ---

  **Note:** The Web protocol setting must be `https`.

  ---

  Refer to the "Wingman Web Proxy" section of the Settings topic in the Core Feature Guide.

  ---

  **Note:** Ensure that the web proxy is created at a hierarchy level that is at or above the required level. This is necessary for the proxy to be available for requests. For example, if the proxy is created at a specific customer hierarchy level below a provider, it will not be available for another customer hierarchy that is also below the same provider.

  ---

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**.

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# 2.9. System User Audit

## 2.9.1. System User Audit overview

The system user audit feature addresses user and service association issues in Automate. The `data/User` status may not be synchronized with the current services such as LDAP, Cisco UCM, Cisco Unity Connection (CUC), MS 365, Webex Teams and MS Teams assigned to users in the system at a selected hierarchy. For example:

- Some users are absent from the system.
- Users are not properly associated with the services present in the system.
- Users exist without corresponding service associations.
- Users are located at a site that is different form their associated service users.

Such issues can result in performance degradation, inaccurate workflows and incorrect license audit data.

Automate provides both a command and a scheduled action to carry out this audit and address these issues.

---

**Note:**

- The *scheduled* action is available *only* if the global system level settings for Automate called **Enable or disable system user audit** is enabled. By default, this setting is *not* enabled. The action is however available on the default **System Configuration** dashboard for an unscheduled run.

  When *cancelling* an unscheduled action, the cancelled transaction may take some time to show as done in the transaction log, but you can continue using the system.
- To access the feature, the administrator's Access Profile must contain Create and Read permissions for the `view/SystemUserAudit` model type.

---

See Settings under Administration Tools in the Core Feature Guide.

## 2.9.2. System User Audit command and schedule

The **System User Audit** link available on the default **System Configuration** dashboard, **License Audit Setup** panel, provides an option to run a user audit or report on users and their associated services. The **System User Audit Report** link also lists generated report files.

### Run a system user audit

1. **Select a hierarchy**: choose the hierarchy at which the task is to be carried out.

   **Important:** Running the audit tool at a high level hierarchy (many users at or below) can severely impact performance. It is strongly advised to initially only run reports on hierarchies - selecting hierarchy levels with fewer users, such as at site level. The reports can then be inspected to determine the number of changes required.

   A **Confirmation** option prompts the administrator to first verify a task.

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2. Choose **Create a Report** if *only* a `.csv` file report is required for download.

   If this option is selected, no changes are made to the users and system. See also *System User Audit report* below.

3. For the **Confirmation** dropdown, select "Yes, I confirm that the System User Audit can be run."
4. Click **Save** to carry out the task.

---

**Note:**

- System User Audit does not delete users from `data/User`.
- If `data/User` instances are moved to align with services and more than one device is misaligned, the user is moved to the hierarchy of the device with the highest priority.
- If the system user audit transaction fails during the processing of an individual user, the associated sub-transaction will log this and roll back that sub-transaction, while continuing to process sub-transactions for subsequent users.

---

#### System User Audit report

Running **System User Audit** and can also simply create a report (**Create Report** checked on the input form) The generated report can be inspected to determine audit output, and is available from the list of files shown at the tool: **File Management**, where it can be downloaded.

The report file format is: `user_audit_report _<%Y%m%d_%H%M%S>.csv`

The file contains headers:

- `username`
- `hierarchy`
- `operation`
- `issue`

### 2.9.3. Schedule and automatic execution

The system user audit can also be scheduled nightly (as part of a service) - see: *License Counting process commands*.

---

**Note:** When running as a service (schedule), a CSV file similar to the report is generated, labelled as `user_audit_operations_executed_<timestamp>`. This report allows administrators to see what operations were executed in the background every 24 hours.

---

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## 2.10. 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. If the report was not generated successfully, a number of notification methods are available:

- CLI login or health check. The message shows on the CLI console when logging in or when typing the **health** command:

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

  The command to execute varies according to the release and license version:

  - Run: `voss export type license_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.

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# 3. Subscriber Data Export

## 3.1. 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.

### 3.1.1. 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 `tmux` session. First run `tmux` and then **voss export** and its parameters.

Type **voss export help** for details.

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

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

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

The following are values of the `group` parameter:

- `subscriber`
- `license`

For example:

**voss export group subscriber**

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

## 3.2. Data Export Commands

### 3.2.1. Subscriber data export command

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

**Important:**

- To optimize performance:
  - On a unified node topology, run and schedule the data export command from the *secondary* database server if possible.
  - On a modular topology, run and schedule the data export command from any *application* server.
- Since a data export can take time, the `voss subscriber_data_export` and `voss export` commands can only be run in a `tmux` session. First run `tmux` and then `voss export` and its parameters. See also:

  Using the tmux command in the Installation Guide
- 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.

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More than one parameter can be specified for the command by prefixing them with the `type` parameter. For example: `voss export type line 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

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```
$ 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 site
Starting line export, please wait...
Completed line export, created 2024-05-07_0705_line.json.gz.
Starting site export, please wait...
Completed site export, created 2024-05-07_0706_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 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 .
```

---

**Note:** Contact your VOSS Account team for details regarding the reports obtained from the following commands:

- `voss export type nbi-subscriber` (internal)

---

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### 3.2.2. Scheduling

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

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

---

**Note:** Scheduled commands will not run while the system is in maintenance mode. See System Maintenance Mode in the Platform Guide.

---

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**

---

**Note:** If a schedule is in a state where the last executed and next execution time are equal, then the next execution time will be recalculated to ensure its execution.

---

### 3.2.3. Using the `screen` command

#### Overview

The `screen` command is used to execute long-running commands in the background, for example, when upgrading.

The following commands require the running of `screen`:

- `cluster provision`
- `cluster upgrade`

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- `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.

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. The following message displays:

```
timed out waiting for input: auto-logout
```

### Create a screen log file

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
```

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## 3.3. Data Export Types

### 3.3.1. Analogue line MGCP Data Export

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

Layout:

| ELEMENT | DESCRIPTION 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

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  - 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.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
  "gateway": "site_1_endpoint_1_gateway_name",
```


(continues on next page)

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(continued from previous page)


```
  "E164": "s1e1_e164_value",
  "port_type": "Cisco MGCP FXS Port",
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "cucm_dn": "11111",
  "customer_name": "Cust1"
},
{
  "division_name": "Intermed1",
  "usernames": [],
  "location_name": "Site1",
  "description": "",
  "port_number": 1,
  "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": "333333",
  "customer_name": "Cust2"
}
]
```


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### 3.3.2. 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

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- 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.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
  "gateway": "SKIGW202AAAA202",
  "E164": "test_e164",
  "port_type": "Analog Phone",
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "cucm_dn": "\\+155545",
  "customer_name": "Cust1"
}
]
```


### 3.3.3. Call Pickup Group Data Export

(New report in version 2)

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

Layout:

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| 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.parition | 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_partitiion": "Cu1-AllowVm-PT",
        "member": [
            {
                "cucm_dn": "50409",
                "partition": "Cu1-AllowVm-PT"
            }
        ]
    }
]
```


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### 3.3.4. 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<br>device/ccdm/Agent.Name | string | v2.2 |
| PeripheralNumber | Skill group peripheral number<br>device/ccdm/Agent.PeripheralNumber | integer | v2.2 |
| Supervisor | User type<br>device/ccdm/Agent.Supervisor | boolean | v2.2 |

Example


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


### 3.3.5. Contact Center Express Data Export

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

Layout:

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| 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<br>device/uccx/Agent.userID | string | v2.2 |
| firstName | Agent first name<br>device/uccx/Agent.firstName | string | v2.2 |
| lastName | Agent last name<br>device/uccx/Agent.lastName | string | v2.2 |
| extension | Agent extension<br>device/uccx/Agent.extension | string | v2.2 |
| teamName | Contact Center Express team name<br>device/uccx/Agent.teamName | string | v2.2 |
| type | Contact Center Express user type<br>device/uccx/Agent.type | string | v2.2 |
| autoAvailable | Availability status of the user<br>device/uccx/Agent.autoAvailable | boolean | v2.2 |

Example


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

]
```


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### 3.3.6. 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 | string | v2 |
| external_id | An externally defined identifier for the customer | string | v2 |

Example

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

### 3.3.7. Extension Mobility Data Export

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

Layout:

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| 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.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
  "lines": [
    {
      "line_order": 1,
      "cucm_dn": "50407",
      "E164": "91107"
    },
    {
      "line_order": 2,
      "cucm_dn": "50408",
```


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```
      "E164": "91108"
    }
  ],
  "device_type": "Cisco 9971",
  "device_profile_name": "ba_user2-UDP",
  "reseller_name": "Resel1",
  "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"
}
]
```


### 3.3.8. FMC Data Export

(New report in version 2)

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

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

Layout:

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| 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
   }
]
```


### 3.3.9. Hunt Group Data Export

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

Layout:

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| 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. | 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.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
  "lines": [
    {
      "cucm_dn": "HuntList1LineGroup1DirectoryNumber1Pattern",
      "line_group_name": "HuntList1LineGroup1"
    },
    {
      "cucm_dn": "HuntList1LineGroup1DirectoryNumber2Pattern",
      "line_group_name": "HuntList1LineGroup1"
    },
```


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```
    {
      "cucm_dn": "HuntList1LineGroup2DirectoryNumber1Pattern",
      "line_group_name": "HuntList1LineGroup2"
    },
    {
      "cucm_dn": "HuntList1LineGroup2DirectoryNumber2Pattern",
      "line_group_name": "HuntList1LineGroup2"
    }
  ],
  "partition": "RoutePartition1",
  "hunt_group_name": "HuntList1",
  "E164": "E164AssocDAT1",
  "reseller_name": "Resel1",
  "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": "Resel1",
  "pilot_number": "8217500",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]
```


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### 3.3.10. Hybrid Data Export

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

Layout:

| ELEMENT | DESCRIPTION AND SOURCE FIELD | 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: extension, e164, cos | array | v4 |
| lines.extension | *release 19.3.4*<br>data/MultiVendorServiceData_DAT.line1Dn (and line2Dn)<br>*release >= 21.1*<br>data/User.mvs_extensions.0.line | string | v4 |
| lines.e164 | *release 19.3.4*<br>data/MultiVendorServiceData_DAT.line1E164 (and line2E164)<br>*release >= 21.1*<br>data/User.mvs_extensions.0.line_e164 | string | v4 |
| lines.cos | *release 19.3.4*<br>data/MultiVendorServiceData_DAT.line1CoS (and line2CoS)<br>*release >= 21.1*<br>data/User.mvs_extensions.0.line_cos | string | v4 |

Example (19.3.4)

```
[
  {
    "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"
```

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```
      }
    ],
    "service_type": "Cisco-MS",
    "reseller_name": "Reseller1Hierarchy",
    "provider_name": "Provider1Hierarchy",
    "customer_name": "Customer1Hierarchy"
  }
]
```

### 3.3.11. 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",
```

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

### 3.3.12. Phones Data Export

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

Layout:

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| 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<br>device/cucm/User.userid | array | v1 |
| device_name | the name of the device (includes mac address if hardphone, softclients no mac)<br>device/cucm/Phone.name | string | v1 |
| description | Text field attached to the device<br>device/cucm/Phone.description | string | v3 |
| device_type | the model of the phone<br>device/cucm/Phone.product | string | v1 |
| device_css | Calling search space of the phone<br>device/cucm/Phone.callingSearchSpaceName | string | v2 |
| lines | Array of objects containing line information<br>device/cucm/Phone.lines.line | array | v1 |
| lines.line_order | Line index.<br>device/cucm/Phone.lines.line.index | integer | v2 |
| lines.cucm_dn | Internal Number assigned to the device profile (as configured in the PBX)<br>device/cucm/Phone.lines.line.dirn.pattern | string | v1 |
| lines.E164 | External Number (E164 number) assigned to the device profile<br>device/cucm/Phone.lines.line.dirn.pattern | string | v1 |
| lines.recordingFlag | Either Automatic Call Recording Enabled or Automatic Call Recording Enabled or Selective Call Recording Enabled<br>device/cucm/Phone.lines.line.recording_flag | string | v2 |
| lines.recordingProfileName | recordingProfileName - string or None<br>device/cucm/Phone.lines.line.profile | string | v2 |

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| ELEMENT | DESCRIPTION AND SOURCE FIELD | DATA TYPE | VERSION |
|---|---|---|---|
| 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 |
| owner_username | User ID of the assigned phone user<br>*Only in release >= 21.1*<br>device/cucm/Phone.ownerUserName | string | v4 |
| add_on_modules | Array of phone addon modules, incl. name, model, position<br>*Only in release >= 21.1*<br>cache.addOnModules.addOnModule | 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": [
    "s1p1_user1"
  ],
  "location_name": "Site1",
```

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```
  "description": "s1p1_desc",
  "hierarchy": "sys.AB707E3E6FC2.Prov1.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
  "lines": [
    {
      "line_order": 0,
      "cucm_dn": "11111",
      "E164": "s1p1l1_e164",
      "recordingFlag": "Automatic Call Recording Enabled",
      "recordingProfileName": "Recording_Profile"
    }
  ],
  "add_on_modules": [
    {
      "position": 0,
      "model": "add_on_module_model-01",
      "name": "add_on_module_info-01"
    }
  ],
  "device_type": "s1p1_product_value",
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "device_name": "s1p1_name",
  "device_css": "s1p1_css",
  "customer_name": "Cust1"
},
{
  "division_name": "Intermed1",
  "usernames": [],
  "location_name": "Site1",
  "description": "",
  "hierarchy": "sys.AB707E3E6FC2.Prov1.Resel1.Cust1.Intermed1.Intermed1_1.Site1",
  "lines": [],
  "add_on_modules": [],
  "device_type": "s1p2_product_value",
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "device_name": "s1p2_name",
  "device_css": "s1p2_css",
  "customer_name": "Cust1"
},
{
  "division_name": "Intermed2",
  "usernames": [
    "s2p1_user1",
    "s2p1_user2"
  ],
  "location_name": "Site2",
  "description": "",
  "hierarchy": "sys.AB707E3E6FC2.Prov2.Resel2.Cust2.Intermed2.Site2",
  "lines": [
    {
```


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```
      "line_order": 1,
      "cucm_dn": "33333",
      "E164": "s2p1l1_e164",
      "recordingFlag": "Automatic Call Recording Enabled",
      "recordingProfileName": "Recording_Profile"
    },
    {
      "line_order": 2,
      "cucm_dn": "44444",
      "E164": "",
      "recordingFlag": "Call Recording Disabled",
      "recordingProfileName": ""
    }
  ],
  "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"
}
]
```


### 3.3.13. Site Data Export

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

Layout:

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

| ELEMENT | DESCRIPTION AND SOURCE FIELD | DATA TYPE | VER. |
|---|---|---|---|
| external_id | An externally defined ID for the site<br>data/GS_LinkedSiteData_DAT.externalID | string | v2 |
| extended_name | An expanded name for the site<br>data/GS_LinkedSiteData_DAT.extendedName | string | v2 |

- ELEMENT: voice_bandwidth

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  - 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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### 3.3.14. 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<br>device/cucm/User.userid | string | v1 |
| first_name | First name of the user<br>device/cucm/User.firstName | string | v1 |
| middle_name | Middle name of the user<br>device/cucm/User.middleName | string | v3 |
| last_name | Last name of the user<br>device/cucm/User.lastName | string | v1 |
| email | email address of the user<br>device/cucm/User.mailid | string | v1 |

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| 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<br>*release 19.3.4*<br>data/HcsUserProvisioningStatusDAT.entitlement_profile<br>*release >= 21.1*<br>data/User.entitlement_profile<br>or<br>data/HcsUserProvisioningStatusDAT.entitlement_profile | string | v1 |
| role | The role assigned to the user - defines privileges in the portal<br>data/User.role | string | v1 |
| credential_policy | The security profile assigned to the user - defined credential and other security rules for portal access<br>data/User.account_information.credential_policy | string | v1 |
| snr | Does the user have the SNR service configured<br>device/cucm/RemoteDestinationProfile.userId | boolean | v1 |
| voicemail | Does the user have a voicemail box configured<br>device/cuc/User.Alias | boolean | v1 |
| title | Subscriber's title<br>*release 19.3.4*<br>data/NormalizedUser.title<br>*>= release 21.1*<br>data/User.title<br>or<br>data/NormalizedUser.title | string | v2 |

| ELEMENT | DESCRIPTION AND SOURCE FIELD | DATA TYPE | VERSION |
|---|---|---|---|
| department | Subscriber's department<br>device/cucm/User.department | string | v2 |
| telephone_number | Subscriber's telephone number as configured in the CUCM user record<br>device/cucm/User.telephoneNumber | string | v2 |
| pager_number | Subscriber's pager number<br>device/cucm/User.pagerNumber | string | v3 |
| imp_enabled | User enabled for Unified CM IM and Presence<br>device/cucm/User.imAndPresenceEnable | boolean | v4 |

Example

(Fields marked * are new in version 2, fields marked ** are new in version 3, and fields marked *** are for v4)

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```
[
   {
   *   "provider_name": "CS-P",
   *   "reseller_name": "CS-NB",
       "customer_name": "AAAGlobal",
       "division_name": "",
       "location_name": "AAA-Boston",
       "hierarchy": "sys.hcs.CS-P.CS-NB.AAAGlobal.AAA-Boston",
       "username": "ba_user4",
       "first_name": "Dean",
   **  "middle_name": "John",
       "last_name": "Daniels",
       "voicemail": false,
       "entitlement_profile": "AAAGlobal-Foundation-EP",
       "snr": false,
       "credential_policy": "HcsCredentialPolicy",
       "role": "AAA-BostonSelfService",
       "email": "email@theinternet.com",
   *   "title": "Dr.",
   *   "department": "R&D",
   *   "telephone_number": "0215252020",
   **  "pager_number": "5551234545",
  ***  "imp_enabled": False
    }
]
```


### 3.3.15. Webex Teams Data Export

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

Layout:

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| 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<br>device/spark/User.firstName | string | v2.2 |
| lastName | Last name of user<br>device/spark/User.lastName | string | v2.2 |
| email | User email address<br>device/spark/User.email | string | v2.2 |
| type | device/spark/User.type | string | |
| loginEnabled | device/spark/User.loginEnabled | boolean | |
| phoneNumbers | device/spark/User.phoneNumbers | array (objects) | |
| | • type<br>• value<br>Example:<br>`[{"type": "work", "value": "\\+13125557007"}]` | • string<br>• string | |
| extension | User extension<br>device/spark/User.extension | string | v2.2 |
| status | Webex App user status<br>device/spark/User.status | string | v2.2 |
| licenses | Webex licenses: | array (objects) | |
| | • license<br>device/spark/User.licenses | • string | |

Example

```
[
  {
   "provider_name": "Provider_01",
   "reseller_name": "Reseller_01",
   "customer_name": "Customer_01",
   "division_name": "Intermediate_Node_01",
   "location_name": "Site_02",
   "hierarchy": "sys.hcs.Provider_01.Reseller_01.Customer_01.Intermediate_Node_01.Site_02
↪",
   "firstName": "Randall",
```

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```
  "lastName": "Stephens",
  "email": "randall.stephens@shawshank.gov",
  "type": "person",
  "loginEnabled": true,
  "phoneNumbers": [
    {
      "type": "work",
      "value": "\\+13125557007"
    }
  ],
  "extension": "7007",
  "licenses": [
    {
    "license" : "Call on Webex"
    },
    {
    "license" : "Free message"
    },
    {
    "license" : "Free screen share"
    }
  ],
  "status": "The user has never logged in; a status cannot be determined."
 }
]
```


**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 App 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 App app during a call from their work phones and view their call history in the app. | boolean | v2.2 |

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| 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":"",
   "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,
```


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```
      "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"
 },
]
```


### 3.3.16. Webex Devices Data Export

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

Layout:

| ELEMENT | DESCRIPTION | DATA TYPE | VERSION |
|---|---|---|---|
| provider_name | Name of the Provider | string | |
| reseller_name | Name of the Reseller | string | |
| customer_name | name of the customer | string | |
| division_name | Intermediate Node (e.g. Division or other node) | string | |
| location_name | Site Name | string | |
| hierarchy | The full hierarchy path for the item being exported | string | |
| id | Device ID<br>E.g. : *ID_<device_name>* | string | |
| displayName | Device displayName<br>E.g.: *DN_<device_name>* | string | |
| workspace | WorkspaceName<br>E.g.: Boardroom | string | |
| username | Device username<br>E.g.: *<device_name>_PersonID* | string | |
| product | product name, e.g. “Cisco Webex DX80” | string | |
| mac | Mac address for Webex devices | string | |
| workspaceMembers | Workspace member data, e.g. workspaceid | array | |
| userMembers | User member data, e.g phoneNumber | array | |
| virtualLineMembers | Virtual line member data, e.g. extension | array | |

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Example: Webex device


```
{
  "provider_name": "Provider_01",
  "reseller_name": "Reseller_01",
  "customer_name": "Customer_01",
  "division_name": "Intermediate_Node_01",
  "location_name": "Site_02",
  "hierarchy": "sys.hcs.Provider_01.Reseller_01.Customer_01.Intermediate_Node_01.Site_02
↪",
  "id": "ID_spark_device_1",
  "displayName": "DN_spark_device_1",
  "workspace": "Boardroom",
  "username": "spark_device_1_PersonID",
  "product": "Cisco Webex DX80",
  "mac": "556655665566",
  "workspaceMembers": [],
  "userMembers": [],
  "virtualLineMembers": []
}
```


### 3.3.17. Webex Workspaces Data Export

Subscriber data export for Webex Workspaces. Used for billing.

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

Layout:

| ELEMENT | DESCRIPTION | DATA TYPE | VERSION |
|---|---|---|---|
| provider_name | Name of the Provider | string | |
| reseller_name | Name of the Reseller | string | |
| customer_name | name of the customer | string | |
| division_name | Intermediate Node (e.g. Division or other node) | string | |
| location_name | Site Name | string | |
| hierarchy | The full hierarchy path for the item being exported | string | |
| id | Device ID | string | |
| displayName | Workspace display name<br>`device/spark/Location` | string | |
| type | Workspace type<br>E.g. “huddle”,”focus”,”meetingRoom”,”open”,... | string | |
| callingType | Workspace calling type<br>E.g. “freeCalling”, webexCalling | string | |
| phoneNumber | Phone number | string | |
| extension | The extension for the phone number | string | |

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Example


```
{
  "provider_name": "Provider_01",
  "reseller_name": "Reseller_01",
  "customer_name": "Customer_01",
  "division_name": "Intermediate_Node_01",
  "location_name": "Site_02",
  "hierarchy": "sys.hcs.Provider_01.Reseller_01.Customer_01.Intermediate_Node_01.Site_02
↪",
  "id": "ID",
  "displayName": "DN_device",
  "type": "desk",
  "callingType": "webexCalling",
  "phoneNumber": "+441522587639",
  "extension": "6252"
}
```


### 3.3.18. MS Office 365 Data Export

Filename: `<YYYY-MM-DD_HHMM>_ms_o365.json.gz`

Layout:

| ELEMENT | DESCRIPTION AND SOURCE FIELD | DATA TYPE | VERSION |
|---|---|---|---|
| username | VOSS Username of the user tied to this O365 service instance.<br>For release 21.3 and later, the `data/User.username` field mapping is:<br>`data/User.username_ms_365 = device/graph/MSOLUser.UserPrincipalName`<br>If this field is blank, it means there is not a corresponding `data/User` for this MSOLUser. | string | v4 |
| first_name | First name of the user<br>device/msgraph/MsolUser.FirstName | string | v4 |
| last_name | Last name of the user<br>device/msgraph/MsolUser.LastName | string | v4 |
| entitlement_profile | Entitlement profile of the user<br>data.User.entitlement_profile of matching data/User | string | v4 |
| o365_username | user name on O365<br>device/msgraph/MsolUser.UserPrincipalName | string | v4 |

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| ELEMENT | DESCRIPTION AND SOURCE FIELD | DATA TYPE | VERSION |
|---|---|---|---|
| display_name | displayed name of user<br>device/msgraph/MsolUser.DisplayName | string | v4 |
| is_licensed | User licensing status<br>device/msgraph/MsolUser.IsLicensed | string | v4 |
| licenses | List of licenses<br>device/msgraph/MsolUser.Licenses | array | v4 |
| licenses.account_sku_id | license SKUId<br>licenses.AccountSkuId | string | v4 |
| licenses.disabled_serviceplans | List of disabled service plans<br>Licenses.X.ServicePlans | array | v4 |
| licenses.disabled_serviceplans.$ | Disabled service plan name<br>Licenses.X.ServicePlans.X.ServiceName where Enabled is False | string | v4 |

Example


```
[
{
  "username": "user_1",
  "first_name": "FirstName_1",
  "last_name": "LastName_1",
  "display_name": "DisplayName_user_1",
  "hierarchy": "sys.A242BC6E4F94.Prov1.Resel1.Cust1",
  "is_licensed": "N",
  "entitlement_profile": "Default-EP",
  "o365_username": "user_1@emailaccount.com",
  "licenses": [
    {
      "account_sku_id": "DEVELOPERPACK_E5"
      "disabled_serviceplans": [
       {
        "Service_Name": "AAD_PREMIUM"
       }
      ]
    }
  ],
  "reseller_name": "Resel1",
  "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.Resel1.Cust1",
  "is_licensed": "N",
```


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```
  "entitlement_profile": "Default-EP",
  "o365_username": "user_2@emailaccount.com",
  "licenses": [
    {
      "account_sku_id": "DEVELOPERPACK_E5"
    }
  ],
  "reseller_name": "Resel1",
  "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.Resel1.Cust1",
  "is_licensed": "N",
  "entitlement_profile": "Default-EP",
  "o365_username": "user_3@emailaccount.com",
  "licenses": [
    {
      "account_sku_id": "DEVELOPERPACK_E5"
    }
  ],
  "reseller_name": "Resel1",
  "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.Resel1.Cust1",
  "is_licensed": "N",
  "entitlement_profile": "Default-EP",
  "o365_username": "user_4@emailaccount.com",
  "licenses": [
    {
      "account_sku_id": "DEVELOPERPACK_E5"
    }
  ],
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
},
{
  "username": "user_5",
  "first_name": "FirstName_5",
  "last_name": "LastName_5",
```


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```
  "display_name": "DisplayName_user_5",
  "hierarchy": "sys.A242BC6E4F94.Prov1.Resel1.Cust1",
  "is_licensed": "N",
  "entitlement_profile": "Default-EP",
  "o365_username": "user_5@emailaccount.com",
  "licenses": [
    {
      "account_sku_id": "DEVELOPERPACK_E5"
    }
  ],
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]
```


### 3.3.19. MS Office 365 Service Plans

Filename: `<YYYY-MM-DD_HHMM>_ms_o365_sku_service_plans.json.gz`

Layout:

| ELEMENT | DESCRIPTION AND SOURCE FIELD | DATA TYPE | VERSION |
|---|---|---|---|
| sku_name | SKU name | string | v4 |
| service_plans | List of service plans | array | v4 |
| service_plans.Service_Name | Service plan name | string | v4 |

Example


```
[
{
  "sku_name": "MS_SERVICE_NAME_01",
  "service_plans": [
    {
     "Service_Name": "AAD_PREMIUM"
    }
  ],
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]
```


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### 3.3.20. 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<br>device/msteamsonline/CsOnlineUser.UserPrincipalName | string | v4 |
| alias | user alias<br>device/msteamsonline/CsOnlineUser.Alias | string | v4 |
| username | VOSS Username of the user tied to this MS Teams service instance. For release 21.3 and later, the `data/User.username` field mapping is:<br>`data/User.username_ms_teams = device/msteamsonline/CsOnlineUser.UserPrincipalName`<br>If this field is blank, it means there is not a corresponding `data/User` for this CsOnlineUser. | string | v4 |
| entitlement_profile | Entitlement profile of the user<br>data.User.entitlement_profile of matching data/User | string | v4 |
| department | User department<br>device/msteamsonline/CsOnlineUser.Department | string | v4 |
| account_enabled | AccountEnabled<br>device/msteamsonline/CsOnlineUser.AccountEnabled | boolean | v4 |
| enterprise_voice | EnterpriseVoiceEnabled (not used)<br>device/msteamsonline/CsOnlineUser.EnterpriseVoiceEnabled | string | v4 |
| feature_types | FeatureTypes, e.g. Teams, Phone System, etc<br>device/msteamsonline/CsOnlineUser.FeatureTypes | array | v4 |
| line | OnPremLineURI<br>device/msteamsonline/CsOnlineUser.LineURI | string | v4 |
| line_type | LineURIType, e.g. OperatorConnect, DirectRouting, CallingPlan<br>device/msteamsonline/CCsOnlineUser.LineURIType | string | v4 |
| voice_routing_policy | OnlineVoiceRoutingPolicy<br>device/msteamsonline/CsOnlineUser.OnlineVoiceRoutingPolicy | string | v4 |
| tenant_dialplan | TenantDialPlan<br>device/msteamsonline/CsOnlineUser.TenantDialPlan | string | v4 |
| voicemail_policy | HostedVoicemailPolicy<br>device/msteamsonline/CsOnlineUser.HostedVoicemailPolicy | string | v4 |
| teams_upgrade_mod | TeamsUpgradeEffectiveMode<br>device/msteamsonline/CsOnlineUser.TeamsUpgradeEffectiveMode | string | v4 |

**Note:** From release 21.4-PB1 onwards, the `first_name` and `last_name` fields have been removed as they are no longer used.

Example

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```
[
{
  "username": "user_2",
  "entitlement_profile": "MsTeamsUser",
  "hierarchy": "sys.02676185F05F.Prov1.Resel1.Cust1",
  "ms_teams_username": "user_2@emailaccount.com",
  "voicemail_policy": "BusinessVoice",
  "teams_upgrade_mode":"TeamsOnly",
  "voice_routing_policy": "Global",
  "alias": "user_2",
  "account_enabled": True,
  "tenant_dialplan": "",
  "department": "R&D",
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "line": "18694400002",
  "line_type": "OperatorConnect",
  "feature_type": ["Teams"],
  "customer_name": "Cust1"
},
{
  "username": "user_3",
  "entitlement_profile": "MsTeamsUser",
  "hierarchy": "sys.02676185F05F.Prov1.Resel1.Cust1",
  "ms_teams_username": "user_3@emailaccount.com",
  "voicemail_policy": "BusinessVoice",
  "teams_upgrade_mode":"TeamsOnly",
  "voice_routing_policy": "Global",
  "alias": "user_3",
  "account_enabled": True,
  "tenant_dialplan": "",
  "department": "R&D",
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "line": "18694400002",
  "line_type": "OperatorConnect",
  "feature_type": ["Teams"],
  "customer_name": "Cust1"
},
{
  "username": "user_1",
  "entitlement_profile": "MsTeamsUser",
  "hierarchy": "sys.02676185F05F.Prov1.Resel1.Cust1",
  "ms_teams_username": "user_1@emailaccount.com",
  "voicemail_policy": "BusinessVoice",
  "teams_upgrade_mode":"TeamsOnly",
  "voice_routing_policy": "Global",
  "alias": "user_1",
  "account_enabled": True,
  "tenant_dialplan": "",
  "department": "R&D",
  "reseller_name": "Resel1",
```


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```
  "provider_name": "Prov1",
  "line": "18694400002",
  "line_type": "OperatorConnect",
  "feature_type": ["Teams"],
  "customer_name": "Cust1"
}
]
```

### 3.3.21. 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.Resel1.Cust1",
  "exchange_mailbox_details": {
    "calendar_permissions": [
      {
        "user": "ms_exchange_user_1",
        "access_rights": [
          "Editor",
          "Publishing Author",
          "Author"
```

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```
        ]
      }
    ],
    "permissions": [
      {
        "user": "ms_exchange_user_1",
        "access_rights": [
          "FullAccess",
          "SendAs"
        ]
      }
    ]
  },
  "reseller_name": "Resel1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
},
{
  "username": "ms_exchange_user_2@emailaccount.com",
  "hierarchy": "sys.003954111679.Prov1.Resel1.Cust1",
  "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": "Resel1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]
```


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### 3.3.22. 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",
   "description": "Description_PexIp_1",
   "owner_email": "user_1@dummy-emailaccount.com",
   "reseller_name": "Reseller1Hierarchy",
   "provider_name": "Provider1Hierarchy",
   "type": "conference",
   "customer_name": "Customer1Hierarchy"
 }
]
```


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### 3.3.23. 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<br>data/PRS_MultiVendorPhone_DAT.mac | string | v4 |
| phone_vendor | Vendor name<br>data/PRS_MultiVendorPhone_DAT.phoneVendor | string | v4 |
| phone_model | Model Name<br>data/PRS_MultiVendorPhone_DAT.phoneModel | string | v4 |
| lines | Lines names and CoS | array | v4 |
| lines.name | Lines names<br>data/PRS_MultiVendorPhone_DAT.line1Name<br>data/PRS_MultiVendorPhone_DAT.line2Name | array | v4 |
| lines.class_of_service | Lines CoS's<br>data/PRS_MultiVendorPhone_DAT.line1Cos<br>data/PRS_MultiVendorPhone_DAT.line2Cos | array | v4 |

Example


```
[
{
  "phone_model": "Cisco 6921",
  "hierarchy": "sys.F28DA5B756D7.Prov1.Resel1.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": "Resel1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
},
{
  "phone_model": "Cisco 6921",
  "hierarchy": "sys.F28DA5B756D7.Prov1.Resel1.Cust1",
  "lines": [
    {
```


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```
      "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": "Resel1",
  "provider_name": "Prov1",
  "customer_name": "Cust1"
}
]
```


## 3.4. Appendix

### 3.4.1. Network communications external to the cluster

Details in this section are all based on the default settings, which can vary depending on the application setup and network design (such as NAT) of the solution. Adjust 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. Details are provided for the following:

- Outbound communications to devices from the application/unified nodes
- Outbound to external systems from the proxy node
- Outbound to external systems from all nodes
- Inbound communications from external systems to the proxy node
- Inbound communications to all nodes
- On-line help links to external documentation

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### 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) |
| MS PowerShell Proxy Node | HTTPS | TCP 5986 |
| Microsoft 365 (Graph API) | HTTPS | TCP 443 |
| Zoom | HTTPS | TCP 443 |

### Outbound to external systems from the proxy node

| Communication | Protocol | Network Protocol and Port |
|---|---|---|
| API Sync and Async responses | HTTPS | TCP 443 |
| Northbound Notification messages | HTTPS | dependant |
| Microsoft Teams / Microsoft Exchange | HTTPS | 443 |
| VOSS Cloud Licensing Service | HTTP<br>HTTPS | 80<br>443 |

### Outbound to external systems from all nodes

| Communication | Protocol | Port |
|---|---|---|
| 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

| Communication | Protocol | Port |
|---|---|---|
| Web Access | HTTPS | TCP 443 |
| API Request | HTTPS | TCP 443 |

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### Inbound communications to all nodes

| Communication | Protocol | Port |
|---|---|---|
| SSH and SFTP for management and files transfers | SFTP/SSH | TCP/UDP 22 |

### On-line Help links to external documentation

To have access to the online help website URL, you may need to request that your network administrator provides access to the website.

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