



Enhanced Room Management

Deployment Guide

Software Version 1.0

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]pexip[

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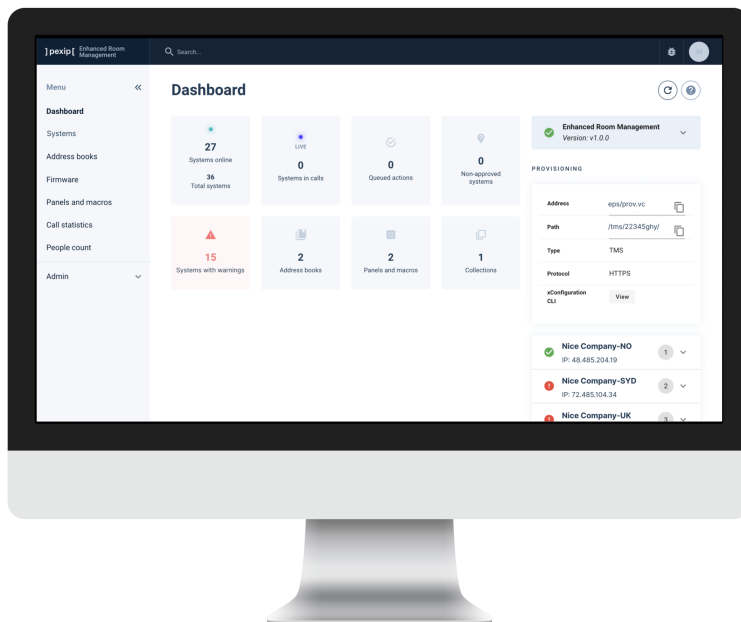
Enhanced Room Management overview

Enhanced Room Management (ERM) is a separately-installable Pexip product that provides management of your Cisco devices and room systems. From system monitoring to bulk provisioning of software upgrades, address books, and branding profiles, it provides everything you need to manage your systems from one single management interface.

Its main features include:

- **Monitoring, usage and diagnostic data:** it provides instant visibility into video systems and room usage data, allowing you to diagnose room system health in real-time. Call statistics allows you to generate valuable insights reports showing system usage per hour/day by participant or group.
- **Provisioning of video systems:** you can provision configuration settings to a single system or in bulk across your organization. You can also create and distribute powerful macros for room automation, and update firmware for any number of systems either immediately or scheduled for later that night.
- **Address books*:** you can create address books from multiple sources, including importing from Cisco TMS. Entries in large phonebooks are easy to find by using the search and filtering functions.
- **People count:** real time monitoring of meeting room usage enables you to create powerful reporting from both online and offline meetings.
- **Branding profiles:** you can provision your branding profiles on all or some of your meeting room displays and touch panels across the organization as often as needed.

* Currently only available for self-hosted Pexip Infinity customers.



See [this article](#) for more information about ERM.

The following table provides a feature comparison between Pexip's standard room management service and Enhanced Room Management.

Room management feature	Standard Pexip Service *	Enhanced Room Management
Provisioning of settings		
Provisioning of address books		
Remotely run commands		
Update firmware		

Room management feature	Standard Pexip Service *	Enhanced Room Management
Call control with dial-out, change volume, mute		
Call statistics for specific system		
Multi-vendor support		
Manual entries for address books		
Multi-layer address books		
Provisioning multiple branding templates for Cisco endpoints		
Provisioning macros and collections		
People count support		
Import and export of backups		
Room call statistics		
Provisioning of root certificates		

* Using the standard Pexip Service tools and features: Pexip Portal, Pexip Control Center and the Video System Configuration client.

Supported

Partial support

Not supported

Supported endpoints

ERM currently supports the following endpoints:

- Cisco Webex Room series (Room, Room Kit)
- Cisco Webex Desk series (Desk, Desk pro)
- Cisco C series (C20, C40, C60, C90)
- Cisco DX series (DX70, DX80)
- Cisco EX series (EX60, EX90)
- Cisco MX series (MX200, MX300, MX700, MX800)
- Cisco SX series VTC systems (SX10, SX20, SX80)

and the following software versions:

- Cisco CE9.x and later
- RoomOS 10.x and later
- TC 7.3.x (limited feature support)

Getting started

For more information about deploying ERM, see:

- [Deploying the Pexip ERM Installer virtual machine](#)
- [Setting up the Pexip ERM Installer](#)

Enhanced Room Management: installation

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Deployment Guide

To get started with your Pexip product installation, start by following these steps:

1. **VM deployment** – The first thing you need to do is to add the Pexip virtual machine to your network. [Read more about VM deployment.](#)
2. **Pexip ERM Installer onboarding** – Once the virtual machine is in place, the next step is to onboard the Pexip ERM Installer. [Read more about Pexip ERM Installer onboarding.](#)
3. **Install Pexip products** – After you have finished adding the Pexip VM and onboarded the Pexip ERM Installer, you are now ready to install the different products that are available for your license key. Please see the next section for specific Pexip products installation.

Pexip product installation

When the Pexip virtual machine and Pexip ERM Installer is up and running you are now ready to continue installing products from the Pexip product suite.

- [Enhanced Room Management](#) – management for Cisco/Webex room systems

Enhanced Room Management: deploying the installer VM

Deploying the Pexip ERM Installer virtual machine

The first step in getting started with installing ERM is to add the Pexip ERM Installer virtual machine to your server network.

Where this server should be set up depends on your particular network environment. For examples and more detailed network schemas, please see the documentation [Network schematics](#).

Before you start, you should review the [Server specifications](#) for the Pexip virtual machine. Also, please review the [Network port requirements](#) before you continue.

Download the Pexip ERM Installer VM

Start by downloading our Installer VM, the latest version is available at the [Pexip download page](#).

Supported hypervisors

Currently only VMware 6.5 and later is supported.

Initial VM deployment and network settings

When you first start up the virtual machine, you will immediately be presented with a list of choices that you can easily navigate using the arrow keys. The first section is for your network settings:

```
Pexip initial deployment
=====

? Step 1/3. Setup networking (Use arrow keys)
  ✦ Refresh status
    Change hostname for server
    Change IP-settings on first NIC
    Change IP-settings for second NIC
    Set DNS-servers
    Set NTP-servers
    Set HTTP-proxy
    Set static routes
    Continue
```

- **Refresh status**
Run this to see the current status of the machine, such as which IP number has been assigned via DHCP, as well as disk space and usage, which can both be helpful during installation.
- **Change hostname for server**
Here you can set the hostname for the server that will primarily be used for internal documentation. This will also help when monitoring entries in different types of event logs.
- **Change IP-settings on first/second NIC**
Choose this option to switch between using DHCP or to manually entering IP numbers and other network settings such as gateway and DNS servers.
- **Set DNS-servers**
This option allows you to specify a standalone DNS server to apply to the server. Even if DHCP is used, an override DNS or similar setup might be used, which you then can specify here.
- **Set NTP-servers**
You can also manually specify which NTP servers to use. This can, for example, be useful for a more secure network with a dedicated internal server which you can then enter an IP number or hostname for. Bear in mind that if a hostname is specified, it requires an available working DNS server.
- **Set HTTP-proxy**
Use this option if you lock outgoing HTTP(s) request in your network. Allows all requests to go through your local proxy where you can verify the traffic and lock down addresses that are not allowed.
- **Set static routes**
This option is available for you who have several different nets in your network. Then you can easily make sure that all traffic goes through the default gateway, but that e.g. 10.0.0.0/24 should instead go through a router that has ip-number 192.168.1.100.

Some choices may require a restart to take effect. You can choose to either restart after each step or, if you prefer, you can complete all settings and then restart at the end of your setup.

When you are satisfied with your network settings, select 'Continue' at the bottom of the list. This takes you to the next section on security settings displayed on the next page.

Server security settings

After selecting 'Continue' from the network settings section will bring you to the security settings for your server.


```
Pexip server setup - Security settings
=====

? Step 2/3. Setup security settings (Use arrow keys)
  ♦ Set password for admin system account
    Disable SSH-login using password
    Disable further changes using boot console-wizard
    Continue
```

- **Set password for admin system account**

Here you can create a system user who can then log in to the linux console to, for example, troubleshoot or change specific settings.

- **Disable SSH-login using password**

Choose this option to disable login via SSH with a password. SSH is enabled with the help of SSH keys by default, and not by using a password.

Without this option it can be difficult to log in as an admin user, as your SSH key is not stored. It is easy to temporarily activate SSH login using a password, add your SSH key and then deactivate this option for increased security.

- **Disable further changes using boot console-wizard**

If you select this option you will no longer be able to access the security section. This means, for example, that for security reasons you can no longer add admin users without first logging in.

When you have chosen your options in this section, select 'Continue' at the bottom of the list to proceed. As long as you have not selected 'Disable further changes using boot console-wizard', you can always return to these security choices later on to make additional changes.

Pexip VM deployment now completed

Selecting 'Continue' from the security settings section means you now have completed setting up the new server. If you have made changes to any of the sections that require a restart, you can now restart the machine before proceeding to the next step.

You will now see the status view of the Pexip ERM Installer VM, including if the Pexip ERM Installer is running and filesystem information. The following options are available:

- **Refresh status**

This will update the current status view.

- **Network settings**

Brings up the network settings described in more detail above.

- **Security settings**

Brings up the security settings view described in more detail above.

- **Login shell**

Will let you login to the VM terminal shell.

- **Upgrade installer**

Even when it is possible to update the Pexip ERM Installer from the web interface, there is also the choice directly from the terminal if, for example, Pexip ERM Installer can not be reached via the browser. Note that this option does not work in offline environments.

- **Hard drive cleanup**

This option lets you cleanup data from your VM including debug logs/raw call data, old versions and unused images.

On the status view you should also see the IP number that applies to the machine. You are now ready to start adding products from the Pexip product suite.

To proceed, write down the URL of the Pexip ERM Installer displayed in the command line and enter the URL in your web browser to start the Pexip ERM Installer. You may now continue with the [Pexip ERM Installer](#) documentation.

Network port requirements

Below you will find all network port requirements for your Pexip server.

For a visual guide, see [Network schematics](#).

Public services	Incoming (TCP)
Web UI, feedback events, CDR, API	80, 443 (multiple hostnames)

Internal/operational services	Incoming (TCP)
Installer web UI	8999 (may be filtered in firewall)
Low level troubleshooting	22 (may be filtered in firewall)

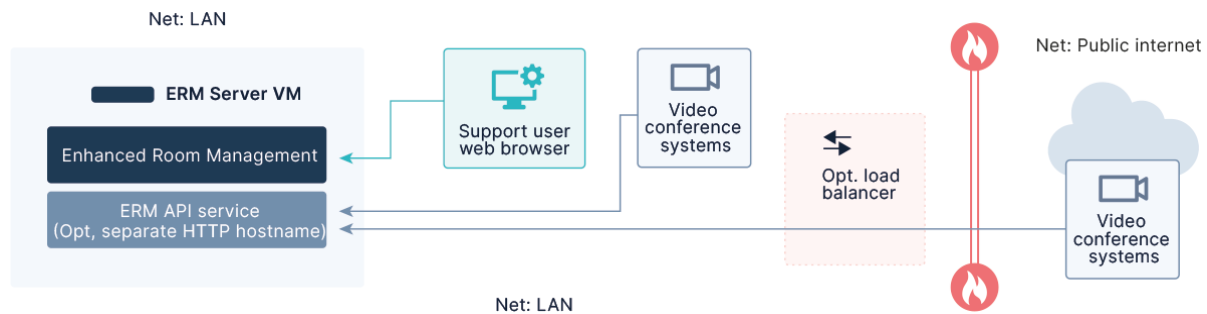
Outbound connections	Outbound port
API requests to Pexip Infinity	443 (configurable)
Video endpoints	443 (TCP)
DNS	53 (TCP)
LDAP	389 / 636 (configurable)
NTP	123 (UDP)
ERM license activations 185.94.242.28 (erm-activation.pexip.io)	443 (TCP)
ERM docker images registry and OS updates 185.94.242.28 (erm-registry.pexip.io)	443 (TCP)

Network schematics

Enhanced Room Management can be deployed in your network in a number of different ways that suit your organization.

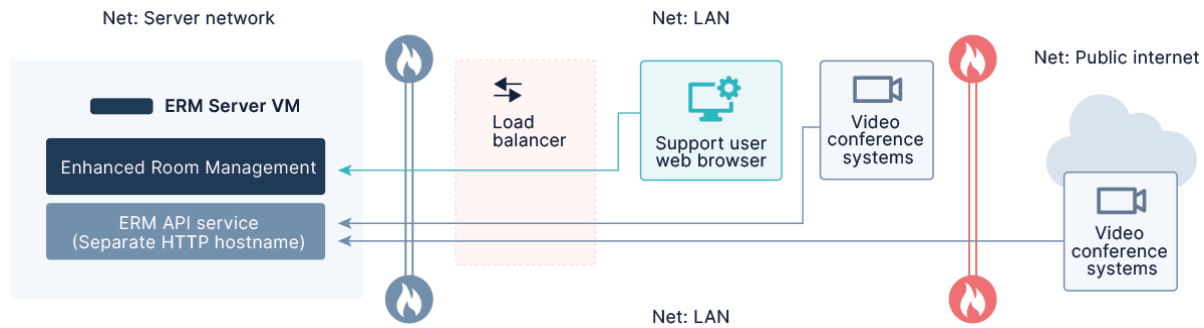
Single VM and a load balancer for external clients

This diagram shows a single VM and access control using a load balancer for external clients:



Single VM and a load balancer for all clients

This diagram shows a single VM and access control using a load balancer for all clients:



Reverse proxy / load balancer

Pexip can be deployed in your network in a number of different ways that suit your organization. See the [deployment guide](#) for more information.

To help filtering traffic for different services in different network zones, Enhanced Room Management allow using different domain names and/or URL-prefixes for different types of services.

URL prefix guide – most often opened up beyond LAN/DMZ

If you have enabled **Separate domain name for Rooms Endpoint event requests** in the Installer, these services are already filtered for their respective domain name. Otherwise, the main management hostname should allow all traffic for regular users, and the following URL-prefixes may be filtered for external systems and external edge nodes.

Enhanced Room Management

(may use dedicated domain name)

/tms/	HTTP Feedback events, passive provisioning from Cisco video conferencing systems
/ep/	
/site_media/media/firmware/	Firmware files for Cisco video conferencing systems
/tms/firmware/download/	
/ep/firmware/download/	

Example – Reverse proxy for satellite offices, with local firmware cache

Prerequisites:

- Split DNS for the remote office with the domain names of the ERM-server overridden to the LB/RP
- Valid SSL certificates
- Replace 123.123.123.123 with the real IP of the server, and replace pexip.example.org with the fqdn for Pexip ERM installation
- If using “Separate domain name for video conference system requests” in your installation, replace endpoints.example.org with the configured fqdn. Otherwise remove the last server{}-block
- Example to start using docker, with the file below named pexip.conf and certificates in a directory named “ssl”:

```
docker run --rm -p 80:80 -p 443:443 -v `pwd`/pexip.conf:/etc/nginx/conf.d/default.conf -v `pwd`/ssl:/etc/nginx/ssl/:ro nginx
```

pexip.conf:

```
proxy_cache_path /var/cache/nginx keys_zone=pexip_static:100m inactive=10h max_size=30g;
limit_conn_zone $server_name zone=firmware:1m;

upstream pexipvm {
    server 123.123.123.123:443;
}

server {
    listen 80;
```

```

server_name pexip.example.org;
server_name endpoints.example.org;
location / {
    rewrite ^/(?\.*) https://$http_host/$1;
}
}

server {
    listen 443 ssl http2;
    server_name pexip.example.org;

    ssl_certificate /etc/nginx/ssl/pexip.example.org.fullchain.crt;
    ssl_certificate_key /etc/nginx/ssl/pexip.example.org.key;

    # set_real_ip_from 234.234.234.234; # Uncomment this to pass client IP from upstream proxies

    proxy_set_header Host pexip.example.org;
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_pass_request_headers on;
    underscores_in_headers on;

    proxy_http_version 1.0;
    proxy_ssl_session_reuse on;

    # Add your access rules here (ip/geoip etc)

    location / {
        proxy_pass https://pexipvm;
    }
    location ~ ^(/site_media/media/firmware/|/(tms|ep)/firmware/download/) {
        proxy_cache pexip_static;
        proxy_cache_valid 200 7d;
        proxy_cache_revalidate on;

        proxy_cache_lock on;
        proxy_cache_lock_age 60s;
        proxy_buffering off;

        limit_conn firmware 10;

        proxy_pass https://pexipvm;
    }
    location /site_media/ {
        proxy_cache pexip_static;
        proxy_cache_valid 200 60s;
        proxy_cache_revalidate on;

        proxy_cache_lock on;
        proxy_cache_lock_age 60s;
        proxy_buffering off;

        proxy_pass https://pexipvm;
    }
}

# Only needed if using "Separate domain name for Rooms Endpoint event requests" in your installation:

server {
    listen 443 ssl http2;
    server_name endpoints.example.org;

    ssl_certificate /etc/nginx/ssl/endpoints.example.org.fullchain.crt;
    ssl_certificate_key /etc/nginx/ssl/endpoints.example.org.key;

    # set_real_ip_from 234.234.234.234; # Uncomment this to pass client IP from upstream proxies

```

```

proxy_set_header Host $http_host;
proxy_set_header X-Real-IP $remote_addr;
proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
proxy_pass_request_headers on;
underscores_in_headers on;

proxy_http_version 1.0;
proxy_ssl_session_reuse on;

# Add your access rules here (ip/geoip etc)

location / {
    proxy_pass https://pexipvm;
}

location ~ ^(/site_media/media/firmware/|/(tms|ep)/firmware/download/) {
    proxy_cache pexip_static;
    proxy_cache_valid 200 7d;
    proxy_cache_revalidate on;

    proxy_cache_lock on;
    proxy_cache_lock_age 60s;
    proxy_buffering off;

    limit_conn firmware 10;

    proxy_pass https://pexipvm;
}
}

```

Server specifications

Before you begin installing the Pexip ERM Installer VM, please review the server specifications and prerequisites below.


Server specifications

Recommended system requirements for production use, single server/VM:

Normal traffic installation	High traffic installation (*)
<1000 concurrent call participants <500 managed endpoints/devices	>1000 concurrent call participants >500 managed endpoints/devices
4x vCPU 6Gb Ram 100Gb storage, SSD/SAN is recommended (**) 1x NIC, possibly behind firewall/reverse proxy	8x vCPU 16Gb Ram 200GB storage, SSD/SAN based (**) 1x NIC, possibly behind firewall/reverse proxy

(*) For larger installations, contact Pexip for a customized deployment

(**) In Enhanced Room Management installations, you need to take the disk space of firmware files into consideration. Each firmware version may require 1-2 GB of additional storage space

 We recommend using thick disk provisioning for your virtual machine, thin disk provisioning will also most likely work but use with caution.

Prerequisites

- One hostname and SSL-certificate for each one of activated functions:
 - ERM management interface
 - Optional – ERM separate hostname for video endpoint API-requests (for access control)
- Open ports in firewall according to the [Network port requirements](#)

Optional:

3. LDAP authentication
 - a. Service account with read access
 - b. LDAP filter for ERM users
 - i. Group name for admin permissions (optional)
 - ii. Group name for superuser permission (optional)

Enhanced Room Management: installer

Setting up the Pexip ERM Installer

The Pexip ERM Installer is used to install and configure the Enhanced Room Management product. This topic describes how to set up the ERM Installer.

We assume that you have already followed and completed the set up of the Pexip virtual machine in your server network. If not, please see the [VM deployment](#) documentation before proceeding.

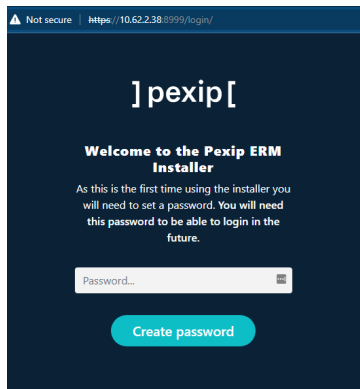
Set a new password

After completing the set up of Pexip virtual machine, you will have access to both IP number and URL via the machine's command line.

You can now from a computer with access to the server's network navigate via your browser to the displayed URL, which takes you to the Pexip ERM Installer interface.

i Note that browsing to the machine hostname will require correct records in your DNS. The Pexip ERM Installer can also be reached by IP address in the format `https://<IP address>:8999`.

If this is the first time you are visiting Pexip ERM Installer via the browser, the first thing you will need to do is choose a password for your installation. The password you choose will be the one used for all future access to Pexip ERM Installer, so it is important that you save this. Simply enter your desired password and click "Create password" to proceed.



Activate your license key

After you have entered the password and are now logged in to Pexip ERM Installer, the next step is to activate your license key.

Here we will go through how to proceed if your server has access to the internet. If your server does not have internet access, please see the [Pexip ERM Installer in offline environment](#) documentation.

If you have not entered a license key, the first thing you encounter on the Pexip ERM Installer start page is a notice stating that you do not currently have an active license key. Then start by clicking on "Set license key" in the notice to proceed.

In the next step, enter the license key you received from your distributor. The check box "Ignore verification errors and save anyway" is primarily used in environments where Pexip virtual machine does not have access to the Internet, you can read more about this in the section [Pexip ERM Installer in offline environment](#).

In cases where the virtual machine has access to the internet, the checkbox should be left unchecked to validate the license and get a list of licensed components. Fill in your license key in the text box and click on “Submit” to proceed.

Active license

You can see an overview and status of your current license key by navigating to “Settings” at the top of the page and then clicking on the “Active license” tab. Here you can see which products the license key applies to, and at what time the license key expires for each product.

Update license key

Change your license key by navigating to “Settings” via the top menu of the page followed by going to the “Change license key” tab. Here you simply enter your new license key in the text field and hit “Submit” to proceed.

Certificate management

TLS/SSL certificates are crucial for private information exchange and to validate that the received information has not been altered. Pexip ERM installer includes tools to help deal with these seemingly complex technologies.

Sometimes it can take a while to get access to valid certificates, which is why Pexip ERM Installer has tools to be able to generate test certificates while waiting for the valid ones to arrive. To simulate a real environment, both a root CA issuer and an intermediate CA issuer is generated. Note that these should only be used in tests or proof of concept environments.

You will find the certificate management tools by navigating to “Certificates” located in the header navigation of the Pexip ERM Installer.

Certificates management

Use this tool to upload your certificate pairs and check certificate information. To help with demo-setups a self signed CA and certificate generation service is also included.

When first navigating to certification management you will be met by the certificate overview where you will see all available certificates. Find information including the expiration date, upload date, and Issuer. You also have the choice to delete selected certificates.

Clicking on the title of a certificate from the overview will bring you to the certificate details page for the specific certificate, where you will find tools such as `update certificate`, `create CSR request` or `export private key`. Read more about this topic in the [Certificate details documentation](#).

General information about certificates

Certificates files should use Base 64-encoded PEM format, and the public certificate should always include the full certificate chain for better compatibility with different services, video conferencing systems and web browsers.

I.e. the public certificate file should include the certificate for the service followed by intermediate certificate(s) and the root CA. If the file contains only one certificate some devices or services may not work correctly even if everything looks ok in the administrators web browser.

Use external tools, e.g. <https://www.ssllabs.com/ssltest/> or openssl from the command line `openssl s_client -connect pexip-erm.example.org:443` to validate your installation.

Example of a public key for pexip-erm.example.org opened in a text editor:

```
-----BEGIN CERTIFICATE-----
(pexip-erm.example.org content)
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
(Intermediate CA content)
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
(Root CA content)
-----END CERTIFICATE-----
```

Upload or generate certificates

By scrolling down on the certificate overview page you will find tools for uploading new certificates or have the Pexip ERM Installer generate temporary self-signed certificates for all products without assigned certificates. Lastly, you have the choice to generate new certificates.

Using the Pexip ERM Installer

After you have finished setting up Pexip ERM Installer, the next step is to onboard the products that are available for your license key.

Install Pexip Products

Settings differ depending on the product you choose to install. See the documentation for more information on installing each specific product.

- [Enhanced Room Management](#)

All settings can be changed after the installation by pressing the “Configure”-button for each component and then pressing “Deploy” to apply the new settings.

Upgrade Pexip components

Always take VM snapshot before upgrade. From the dashboard, select one of your installed products by pressing the Details-button. For each installed component (e.g. Enhanced Room Management), select the version you want to upgrade to.

At the bottom of the page, press “Deploy” to install the new version.

Uninstall component

Always take VM snapshot before uninstall. Select “Uninstall” that is at the bottom of the version select box. Press Deploy to apply the change.

Convert Pexip products

Always take VM snapshot before conversion. It is also possible to convert Pexip products. This becomes relevant if e.g. the license is changed so that more product choices are available, then it is possible to choose from an already existing installation to convert this to another product. These choices then appear at the bottom of the deployment for a specific installation.

Upgrade Pexip ERM Installer

Always take VM snapshot before upgrade. To upgrade Pexip ERM Installer, start by navigating to “Settings” in the menu at the top of the page, followed by clicking on the “Upgrade installer” tab.

On this page you get information about the currently installed version and can easily upgrade to the latest version by clicking the “Start upgrade” button. Note that the process may take a few minutes to fully implement.

Here you also have the opportunity to export an offline bundle of your current version and then use it if you have an environment that does not have access to the internet. You can read more about this in the section Managing offline bundles.

Offline environment

If Pexip virtual machine has been set up in a network where the server does not have access to the internet, the approach to configuring and installing products will look a bit different.

If you have set up the Pexip ERM Installer virtual machine in an environment with internet access you may skip this section.

Even in an offline environment, the first step is to enter your license key, but in this case check “Ignore verification errors and save anyway” before you choose to proceed. This causes Pexip ERM Installer to ignore verification errors due to the connection failure and save it anyway. To install the actual software you will need to export offline bundle packages from a separate Pexip ERM Installer with internet access.

Proceed as follows:

- **Online VM:** Follow the steps in the documentation [VM deployment](#) and install a virtual machine in an environment with internet access.
- **Online VM:** Navigate to Pexip ERM Installer via the URL you received from the command line when setting up the virtual machine.
- **Online VM:** Enter default password
- **Online VM:** Proceed to enter license key
- **Online VM:** After your license key has been verified, you now have the opportunity to export bundle packages of the product range that is available for your license key, which you can read more about in the section [Export product bundle for offline use](#).
- **Offline VM:** Enter your license key in the text field, tick “Ignore verification errors and save anyway” and click “Submit”.
- **Offline VM:** Fill in server settings for your environment, which you will find more detailed information about in the section Enter default information.
- **Offline VM:** Once an offline bundle has been exported from the Online VM, you now need to import it to your Pexip ERM Installer located in the offline environment. Read more about how to proceed with this in the [Handle offline bundles](#) section.

Export product bundle for offline use

To create an offline bundle, start by configuring the product that you intend to bundle for offline use. Note that you only need to enter the required fields, the settings you enter will need to be re-entered when you then configure the product in your offline environment.

This section is only relevant for you who install Pexip ERM Installer in an environment that does not have access to the internet and can otherwise be skipped.

Then select the versions you of the product you want to export to your installation that does not have internet access. Once you have selected the version for the product, then click on “Export offline bundles” further down the page and save the resulting file.

Export Pexip ERM Installer for offline upgrade

A new version of Pexip ERM Installer can also be bundled for use in an environment that lacks internet. Start by navigating to “Settings” in the menu at the top of the page followed by clicking on the “Upgrade installer” tab.

On this page you have the option to export an offline bundle version by clicking on “Export offline bundle of installer”. The file you exported can then be used to upgrade Pexip ERM Installer in an environment that lacks internet. You can read more about using offline bundles in the next section.

Handle offline bundles

For this section, we assume that you have gone through Pexip ERM Installer onboarding in an offline environment and have now exported an offline bundle that you will now import in the environment that lacks internet access.

This section is only relevant if you have installed Pexip ERM Installer in an environment that does not have internet access.

Start by navigating to “Settings” via the menu at the top of the page followed by clicking on the “Handle offline bundles” tab. Here you can then easily import the offline bundle that you exported in previous steps. Select the file and click “Import” to proceed.

After the offline bundle have been imported you should now have access to configure and deploy the products you exported with the offline bundle.

Server settings

Once you have entered a valid license key, you will be redirected to the general settings. To simplify the workflow, these settings will later be used as the default settings for all the Pexip products that you later choose to install.

You can always go back and change these default settings by navigating to “Settings” which is always displayed at the page top navigation.

General server settings

The first thing you will need to fill in is general settings regarding your server.

- **Internal IP address of server**
This IP number should be the same as for the virtual machine you set up for the Pexip ERM Installer. The IP number will be automatically filled in with the same value as on the server.

- **Internal hostname of server**
Enter the hostname to use for your server, preferably the same hostname as the one you entered when you set up Pexip virtual machine (read [VM deployment](#) for more information).
- **Server is running on SSD / SAN instead of hard drive**
This setting is for database management which will be optimized based on the selection you make here.
- **Allow sending traceback of unhandled errors to Pexip**
With this choice, you allow Pexip products to send traceback of unhandled errors back to Pexip for troubleshooting.
- **Trusted HTTP load balancer / reverse proxy IPS**
It is common to have a firewall or load balancer that first receives calls and then forwards them to the server. By filling in the IP address, the load balancer here should e.g. the actual IP numbers from the calls to appear in logs instead of the IP number of the load balancer.
- **Timezone and default language**
Finally, you choose which time zone and language to set as default for your upcoming product installations.

SSL settings

The next section that you need to fill in is SSL settings, here you can upload the various certificates that should be used by default when someone connects to the server.

Pexip ERM Installer also has tools for creating certificates that are mainly used for testing or while waiting for the valid certificates. You can read more about this under [Certificate management](#).

Default LDAP authentication settings

Here you enter default information for your LDAP or AD server so that you do not have to enter this information every time a new product is added. As groups and paths in the LDAP / AD environment often differ between organizations, this section may need to be done in consultation with your organization's AD group.

Pexip ERM Installer also has tools to easily test your LDAP or AD settings to make it easier for you to troubleshoot and get started, you can read more about this under [Troubleshooting tools](#).

These settings are optional and will be automatically filled in when installing future products, which will otherwise be left blank.

- **Server ***
Enter the hostname of the current LDAP or AD server to use by default.
- **Service account DN / username ***
Here you enter the path to the account to be added as a service account. The path is often unique to your particular organization.
- **Password**
Enter the password for your LDAP or AD server.
- **Ignore TLS / SSL verification errors**
TLS can be used both with and without LDAPS connection.
- **Base dn ***
Specify where in the tree the initial search for results should begin.
- **User filter ***
Here you choose how users are filtered out and displayed. By default, a filter is specified that should work in most cases, but you have the option to customize the filter exactly as you wish.
- **Admin group DN**
Specify which group in the tree will have access to admin rights in the system, which opens up additional settings and functions for the logged in user.
- **Superuser group DN**
Specify which group in the tree has access to superuser status. Use this with caution as these users will have full control over the system and should only be assigned to users with high technical knowledge.
- **Customer attribute**
Enter attributes for the customer's shared key in multi-tenant installations.
- **Read Only**
If this is checked, users will not have access to functions such as changing passwords, e-mails or other information for their users.

Pexip ERM Installer onboarding is now complete

After specifying the various default settings for the server, you are now ready to start adding products that are available through your license key. These products appear on the Pexip ERM Installer home page that you access by clicking on the logo at the top left of the page, or “Installation” in the main navigation at the top of the page.

Certificate details

On the certificate details page you will find more information and tools for a specific certificate.

You will reach this view by navigating to `Certificates` located in the header navigation of the Pexip ERM Installer, then click on the title of your desired certificate from the certificates overview.

Certificate general information

The first thing you will see is a table with general information about the specific certificate. Scrolling down will show tools and actions for the certificate described below.

Update certificate

Use the form to update the certificate, choose a name and select your private key and public certificate and click “Update”. You also have the choice to delete the certificate.

Public certificate

You will see the public certificate in the text field and also have the option to download the public certificate by clicking on “Download”.

Generate CSR

Create a CSR request, simply fill in the form and click the “Generate CSR request” button, and you are done.

Export private key

Lastly you have the option to export the certificate private key, simply click the “Export” button.

Troubleshooting tools

To simplify the process of troubleshooting settings and installation, Pexip ERM Installer comes with tools to be able to test in your environment directly from Pexip ERM Installer.

You can access these tools by clicking on `Network tools` in the top navigation.

LDAP test

For troubleshooting your LDAP connection, this tool is available to quickly and easily test lookups in your LDAP. Simply fill in the fields and click on “Test LDAP query” and the result will appear for your request.

Network tools

Use these tools to verify DNS lookups and try connecting to different IP/TCP-ports directly from the server to check firewall and route settings

Enhanced Room Management: product installation

Introduction to ERM product installation

In this section, we go through the steps that are necessary to get started with your Enhanced Room Management installation.

We assume that you have a running Pexip virtual machine, if not please see the [VM deployment](#) documentation. We also assume Pexip ERM Installer is set up correctly and that you have activated your license key, if not please see the documentation for [Pexip ERM Installer](#) before proceeding.

Installation and upgrades

The Pexip ERM Installer start screen shows all the products that you have access to via your license key. In this case, there should be an alternative to installing Enhanced Room Management.

Note that Enhanced Room Management is available as either stand-alone installation or in combination with other Pexip products.

Start by clicking on “Configure” for the Enhanced Room Management product on the Pexip ERM Installer start screen. This takes you to the configuration of your installation of Enhanced Room Management before it is ready for deployment. In this example we are using the stand-alone version of Enhanced Room Management.

Hostname

The first thing to fill in is information regarding the hostname to be used for your Enhanced Room Management installation. Fill in the hostname and possibly the certificates to be used for access to the installation after deployment. [Read more about certificates](#)

Locale settings

Specify which language and time zone to use. Note that Enhanced Room Management will first and foremost use the language setting in the web browser for selecting the language for the user interface, if the web browser language is not available then the default language will be used instead.

Other settings

These settings are usually not necessary but are available for specific cases where they are needed.

Optional settings

There are also optional settings. Often these are not necessary to fill in but are available to make more specific changes.

LDAP authentication settings

By default, settings for LDAP will be filled in with what was specified when onboarding Pexip ERM Installer, but can here be adapted for your particular Enhanced Room Management installation.

Save configuration and continue

Note that all the Settings you have entered in these steps can be changed at a later time. you can read more about this under Update settings after deployment.

After you have gone through and filled in the necessary settings, you proceed by clicking on “Configure” at the bottom of the page that takes you to the step to deploy Enhanced Room Management with the settings you have selected.

Deployment

After you have gone through and filled in the necessary settings during the configuration and clicked on “Configure”, you will be redirected to the step to deploy your installation of Enhanced Room Management.

Start by selecting which version of Enhanced Room Management to install in the drop-down list to the right then click on “Deploy changes” to start the installation. You can now follow the installation process in a terminal that appears under the deploy button. When the installation is complete, you may reload the page and then you should see the correct version displayed for Enhanced Room Management.

The next step is to move on to the onboarding for your Enhanced Room Management installation. Open a web browser and navigate to the hostname that you entered for the installation. Read more in the Onboarding wizard documentation. Note that the hostname you selected for your installation must be a valid record in your DNS.

Update settings after deployment

After the installation of Enhanced Room Management is complete, you still have the option to change settings. To do this, click on the installation you want to change from the Pexip ERM Installer start screen.

Then click on “Configure” for the product you wish to change settings for and make the changes you desire. After you are satisfied, click on “Save” which will take you back to the deployment of the product. Finally, you need to click on “Deploy changes” to apply the new settings to your installation.

After the installation process is complete you may now reload the page and your update is completed.

Onboarding


After completing the [installation process](#) and navigating to your Enhanced Room Management installation via your web browser you will be met by the Enhanced Room Management onboarding wizard.

Organization

Enter a name and click continue. This organization will be used as the default organization for your Enhanced Room Management installation.

Add Pexip cluster

The next step in the wizard is to set up a Pexip video cluster. Start by filling in a description for the cluster followed by choosing Pexip Infinity and specify what SIP-address to use for the cluster.

 Adding a Pexip cluster and a Pexip Infinity Management Node only applies to self-hosted Infinity customers. Please skip this step if you are a Pexip Service customer.


Pexip Infinity Management Node

Add your Pexip Infinity Management Node to your cluster.

- **Description** – A short description for the new Pexip Infinity Management Node.
- **IP address** – The IP address for the node.
- **Ev. separate IP/host for API calls** – Choose if you want network separation for all API calls, so that traffic will go through a separate hostname if you want to add firewall rules or the like.
- **DNS Name** – The Pexip Infinity Management Node’s DNS name.
- **Username and password** – Specify the username and password in order for Enhanced Room Management to be able to connect to the Pexip Infinity Management Node.
- **Prepare event sink and external policy** – Note that these must be manually activated for each location.

Choose password

Here you may enter a password for the fall back user “pexip_fallback”. Recommendation is to set a password so you always have a fall back user for recovering the platform. You may skip this step, but will then have to use one of your LDAP users for future access.

 If the password for the fallback user is non-existent or forgotten, and the LDAP integration is down, password recovery is only available via the virtual machine. In this case please contact support for further assistance. **A password recovery in this way is a time-consuming process and that is why we always recommend setting a password for the fallback user which you then store in a safe place.**

All done!

After completing the onboarding wizard you are now ready to start managing all your video conferencing systems with Enhanced Room Management.

From here, please review the [Enhanced Room Management documentation](#) for more information about how to start working with your new Enhanced Room Management installation.

Dashboard

On the Enhanced Room Management dashboard, you will find a compilation of the various parts of Enhanced Room Management, which are presented by a number of widgets for a clear overview.

System

At the top of the dashboard you will find details about the different video conferencing systems that are connected to your Enhanced Room Management installation.

- **Total systems** – Total number of your managed room systems.
- **Queued actions** – Total number of queued actions for your room systems. Navigate to `Systems > Queue / history` for a list of all queued actions. Please read the [Queue / history](#) documentation for more information.
- **Non-approved systems** – Number of non-approved room systems. Navigate to `Systems > Approve new systems` to get a list of the systems that need to be accepted before they are added to be managed by Rooms. Please read the [Approve new systems](#) documentation for more information.
- **Systems in calls** – Total number of room systems that are currently in a call.
- **Systems online** – Total number of the managed room systems that are currently online.
- **System with warnings** – Total number of systems that currently have one or more warnings.

Find more detailed information about your managed room systems under the [Enhanced Room Management systems](#) documentation.

Overview

On the dashboard overview, you get a quick look at the different areas of your Enhanced Room Management installation, as well as how many objects each area has active right now. You can easily navigate to each specific area by clicking on the “Show all” button.

Sidebar

Enhanced Room Management Version

Get more information about the current version of your Enhanced Room Management installation. The status symbol to the left indicates:

- – Status is loading.
- – Everything is OK.
- – The version has warnings.
- – There are version errors.

By clicking on the version, you will get more detailed information such as which version build that is currently in use and also more information about warnings and errors.

Please note to always include this version information in your support tickets to enable faster troubleshooting.

Provisioning

Passive provisioning settings to be configured in your video conferencing system, which you will find under `Setup > Configuration > Provisioning` in your system settings.

- **Address** – The current address for your Enhanced Room Management installation.
- **Path** – The provisioning path to be used.
- **Type** – Type of provisioning.
- **Protocol** – The protocol used when provisioning.
- **xConfiguration CLI** – Click “View” to get all details as xConfiguration CLI which you can easily copy from the dialog that appears.

Enhanced Room Management: systems

This provides management of all video conferencing systems connected to your Enhanced Room Management installation.

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Systems

Management of all video conferencing systems connected to your Enhanced Room Management installation.

You reach this view by navigating to **System** via the left menu in Enhanced Room Management. The first thing you will encounter is a list of all the systems managed by Enhanced Room Management.

Page actions

In the top right of the page you will find these different page actions:

- Add a new room system, please see the [Adding new systems](#) documentation for further information.
- Add multiple room systems at once, please see the [Adding new systems](#) documentation for further information.
- Refresh the current page.
- Link to Pexip documentation.

Room system overview

The list shows detailed information about all your managed room systems. The list is sortable by clicking on the heading for each specific column. Description of each column is shown below:

- **Name** – Shows the name and model of the system. Clicking on the name takes you to the management of the specific system, which you can read more about in the [System details](#) documentation.

In this column the current status of the system is also displayed:

- – The system is online
- – The system is offline
- – Unknown status
- – The system is in a call
- – The system has an active meeting
- – Error retrieving system status
- **URI** – This shows which URI is used for the system.
- **IP** – Current IP number for the system.
- **Other details** – This column is selectable where you have the option to view different types of details by selecting type directly in the dropdown list:
 - **Serial number**, **Model**, **Group**, **Firmware**, **MAC address**, **E.164**, **H323** and **Place** are selectable.
- **System warning** – The last column will show if the system has any warnings which is then displayed with a warning symbol .

Filtering and grouping

To facilitate the workflow with the room system list, you have the option of using both filtering and grouping for the list results. It is also easy to search the list by using the search field at the top left of the table.

Filtering

You will find the filter button () at the top right of the room system list, clicking this button will display the filtering dialog where these options are available:

- Firmware
- Status
- New systems only
- Webex-registered systems only
- Only Pexip service-registered systems
- Only system with warnings

When you are satisfied with the filtering choices you have made, click “Apply” in the dialog to update the list.

Grouping

You will find the grouping button () at the top right of the room system list, clicking this button will display the grouping dialog. Note that with larger screen resolution, grouping is instead placed to the left of the system list for faster access. These options are available for grouping:

- Per organization
- Per location
- Per model
- Per status
- Per connection

When you have selected your grouping click “Apply” in the dialog to update the list. Note that on larger screen resolution the room system list will be updated directly when changing your selection in the grouping form.

Bulk edit

By selecting multiple systems in the table using the checkbox on the left, you can make changes for several systems at the same time. After selecting the systems, actions will appear in a dialog at the bottom right of the screen:

Edit

Opens a dialog box for editing the selected systems with the following options:

- Password
- Number of seats in rooms
- Place
- Organizational unit

Provisioning

Opens a dialog to provisioning settings to the selected systems. The same provisioning form is displayed here as when settings are provisioned from a specific system. Please read more about how the form works under the [getting started documentation](#)

Export

Exports the selected systems to Excel.

Delete

Removes the selected systems from Enhanced Room Management.


Adding room systems

Use the page actions to add either a single room system, or multiple room systems at once. This is described more in detail in the user guide [Adding a new system](#).

Adding new systems

In this section, we will go through how to add your first video conferencing systems to be managed by Enhanced Room Management.

We assume that you already have a working Enhanced Room Management installation, if not, please see the [Enhanced Room Management installation](#) documentation before proceeding.

-  Please note that if Cisco TMS and Enhanced Room Management will co-exist during a trial process or migration, uncheck the “Enforce management settings on systems” in the TMS Services section on the Cisco TMS. Otherwise, there is a chance that TMS will overwrite various settings.

Start by navigating to your Enhanced Room Management installation from your web browser. Then click on **Systems** via the main navigation located in the left sidebar to get an overview of all available video conferencing systems.

Page actions

In the top right of the page you will find these different page actions:

- – [Add a new single room system](#).
- – [Add multiple room systems at once](#).
- – Refresh the current page.
- – Link to Pexip documentation.

Add a single room system

The following information should be added as you start the process of adding a room system to Enhanced Room Management.

Mandatory fields marked with *.

- **Name** – The system unit name displayed in Enhanced Room Management list of endpoints and in the address book
- **Username *** – The username for the endpoint. Note that Webex registered endpoints require that an additional user with administrator privileges is created as the Webex admin password is not disclosed and any direct HTTPS access is by default only possible through Webex Control Hub.
- **Sign in with default password *** – If this option is checked, Enhanced Room Management will try to add the system with one of the passwords specified under settings in the Admin section of the left menu panel in Enhanced Room Management. Uncheck the selection to instead have the opportunity to enter a specific password for the system.
- **IP address** – The IP address enables Enhanced Room Management to connect directly to the endpoint.
- **Port to web interface** – The port to use for the system’s web interface.
- **Full DNS hostname** – Use the system’s DNS hostname if you wish. The hostname will take precedence over the IP address.
- **Automatically update IP data when sent from the system** – Check this option if you want Enhanced Room Management to acknowledge and track IP address changes for the selected endpoint.
- **Type of connection** – Choose if the endpoint is accessible directly from Enhanced Room Management or if passive provisioning is used.
- **Place** – Choose a place (location) of the endpoint, e.g. headquarters, sales office, London office. Can be used for filtering and analytics.
- **Organizational unit** – Choose an organizational unit (OU) for the endpoint, e.g. IT-department or Sales. Can be used for filtering and analytics.
- **Number of seats in rooms** – Use this setting to set the number of seats/chairs in the physical meeting room. This value will be used for analytics and will view the efficiency of that particular meeting room.
- **Personal system** – Choose this option to disable people count for the system, for instance, to not track if employees are at their desks.

After adding your system to be managed by Enhanced Room Management you will be automatically redirected to provisioning settings for the new system. Please read more about this topic in the documentation [Provisioning](#).

For more details on how to manage all your video conferencing systems, please see the documentation [Pexip ERM > Systems](#).

Add multiple room systems at once

Most settings are similar to adding a single endpoint, however, you can also add multiple systems from an Excel file (.csv, .xls, .xlsx) and choose the appropriate columns as you import endpoints.

Endpoints can be exported from Cisco TMS (Tandberg Management System) and imported to Enhanced Room Management.

After adding your systems to be managed by Enhanced Room Management a provisioning dialog will automatically appear for provisioning settings for your newly added systems. Please read more about this topic in the documentation [Provisioning](#).

For more details on how to manage all your video conferencing systems, please see the documentation [Pexip ERM > Systems](#).

Queue / History

In the table you will find upcoming and previous measures for the system with an indicator of whether the measure has been completed. Use the search function and filtering to quickly find what you are looking for.

Queue / History overview

Directly from the table, you can re-run measures by clicking (). You can also get more information about a specific measure by clicking on ().

If something went wrong with a measure, () is displayed as status, you can then move the mouse over the symbol to get more information about what went wrong, or click the () icon to show more details in a dialog.

Approve new systems

Overview of video conference systems that have been entered with a passive url and need approval before the system is added to your Enhanced Room Management installation.

New systems overview

The table of systems that needs approval has these available details:

- **ID** – Specifies the system ID.
- **Name** – Displays the name of the system.
- **IP** – Indicates the system's current IP number.
- **Created** – Date when the system was added.

System details

On the details view for a specific video conferencing system, you get an overview of the system's current status and also have the option to provision new settings.

The first thing you encounter once inside a specific system is the dashboard view where you get a quick overview of the system's current status and settings.

The dashboard also has call control for the system where you can easily call addresses, change volume and restart the system.

Page actions

In the top right of the page you will find these different page actions:

- – Edit system settings, opens a dialog with the same type of form as when you are adding a new system, please see the Getting started documentation [Adding a new system](#) for further information.
- – Removes the current system from Enhanced Room Management.
- – Takes you to debug view for the system.
- – Refresh the current page.
- – Link to Pexip documentation.

Navigation

You navigate easily via the tabs located directly below the system title. Below you will find more details about the different available areas.

Start

The first tab is “Start” which takes you back to the system dashboard which is described earlier in this section.

Status

Get an overview of the current status of the system. You navigate between the different topics with the tabs located to the left and can use the search function to quickly find what you are looking for.

Create report

By clicking on the “Create Report” () button located at the top right. You can then choose which different types of settings that you want to generate a report for in the status list.

When you are satisfied with your choices click on the “Select systems” () button to compare the selected settings with other managed room systems in your Enhanced Room Management installation.

Configuration

Similar to status, you get the various settings available for the system. The difference is that you can choose to provision new settings or save a number of different settings as templates for which can be reused e.g. when a new system is added.

For more information on how to work with configurations in Enhanced Room Management, please see getting started documentation for [provisioning configurations](#).

Commands

Get an overview of all available commands for the system. You can quickly run specific commands directly, or run multiple commands from a queue. You can also save a queue of commands as a template to reuse at a later time.

For more information on how to work with configurations in Enhanced Room Management, please see getting started documentation for [provisioning commands](#).

Backups

Manage system backups. The table gives you an overview of previously created backups where you can directly download, restore and delete backups.

Create backup

You can easily create new backups by clicking on the () icon located at the top right of the page. This will start a backup process in the background which will be automatically added to the list as soon as it is complete.

Queue

In the table you will find upcoming and previous measures for the system with an indicator of whether the measure has been completed. Use the search function and filtering to quickly find what you are looking for.

Directly from the table, you can re-run measures by clicking on the () icon. You can also get more information about a specific measure by clicking on the () icon.

If something went wrong with a measure, () is displayed as status, you can then move your pointer over the symbol to get more information about what might have went wrong, or click the () icon to show more details in a dialog.

Statistics

Displays statistics of the system's usage. All systems have call statistics by default while systems with people count support also have this type of statistics available.

Provisioning

Provision new settings for the system. Please see the [Provisioning](#) documentation where we go through in more detail how different settings are provisioned.

Enhanced Room Management: provisioning

Enhanced Room Management supports provisioning configurations, commands, firmware, branding and macros/panels to one or multiple room systems.

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Provisioning

Enhanced Room Management supports provisioning configurations, commands, firmware, branding and macros/panels to one or multiple room systems.

Room system provisioning

Each room system in Enhanced Room Management has its own provisioning view, you can access this by navigating to the system you want to provision, followed by clicking on the “Provisioning” tab which is located under the heading on the room system’s start screen.

Inside the provisioning view, you then have the option of provisioning a number of different types of settings:

Update settings

Update different configurations for the room system.

- **From a template**
If you have already saved templates, you can easily load the settings here by clicking “Load” for the desired template. By clicking on the information icon next to the “Load” button, you also get an overview of all the configurations of the template.
- **From a system**
You can also choose to load an entire configuration that applies to another room system, then select the system you want from the system list and click on “Load settings”.
- **Edit manually**
You can also change configurations manually via this tab. All configurations for the selected system are displayed here and you can easily select the configs you are interested in by clicking in the checkbox. When you are satisfied, you can click on the “Review” tab to get an overview of your choices.
- **Review**
After you have loaded configurations from a template, an existing system or have manually selected configurations yourself, an overview of your choices is always displayed under the tab “Review”, here it is good to quickly check all values before they are provisioned to the system.

Subscribe to live updates

Select this option and commands will be sent to the room system to start subscribing to live updates. The slot used for this is determined by the setting set for Enhanced Room Management. You can find this setting in [Enhanced Room Management > Admin > Settings > HTTP Feedback Slot](#).

Next to this option, a notice is also displayed about when the system last received a message from live updates.

Change password

Change the password for the room system. You can either choose the default password to be used, in which case this is retrieved from the settings in [Enhanced Room Management > Admin > Settings > Default password](#). If several passwords have been entered under the settings, the first password will be used.

You can also choose to set a completely different password by clicking out of the check box for “Default password” and then entering your own password.

Change passive room analysis

Decide which type of passive room analysis should apply.

- **People count out of call** – If activated, the system will send information about people count even when the system is not in a call.
- **Detect presence** – If activated, the system will send events if it senses that a person is in the room.

Note that these features are not supported for all types of systems. Please see documentation for the selected room system for more details.

Get previous statistics

If this option is selected, the room system will send all its previous statistics to Enhanced Room Management.

Set up passive provisioning

Set up the system to use passive provisioning.

Use address book

Provision an address book for the room system, by selecting this option you can then choose which address book you want to provision via the dropdown list. These address books are created and managed through [Enhanced Room Management > Address books](#).

Use branding

It is also possible to provision which branding is to be used for the room system. Activate this option and you will be able to select branding from the dropdown list. These branding profiles are created and managed via [Enhanced Room Management > Admin > Branding profiles](#).

Upgrade firmware

Provision new versions of the room system's firmware. Which firmware is selectable in the dropdown list depends on what is stored under [Enhanced Room Management > Firmware](#).

Apply room controls

You can easily provision room controls to your room system, then activate this option and choose which room control to send to the room system. You create and manage all your room controls under [Enhanced Room Management > Panels and macros](#).

Dialing properties

Change the dialing properties that will apply to the room system. Note that if the room system has been edited and new information has been entered, these are shown here, but they will be updated in the room system only after the provisioning has been made.

For Pexip Infinity use cases, you can add the system to the Pexip Infinity device registration by clicking the "Register new aliases in Pexip" checkbox.

After you are satisfied with your selections, you can either click "Apply" to provision the new settings immediately, or click "Schedule for the night" to make the provisioning run at night.

Provisioning multiple room systems

The same provisioning form is used to provision to several room systems simultaneously. Start by navigating to the list of all systems in Enhanced Room Management by clicking on "System" in the navigation to the left.

In the list view, you can then select one or more systems in the list by clicking in the checkbox for the systems you want to select. This will show a dialog in the lower right corner where you have a number of choices to make. One of these is "Provisioning", click here to open a provisioning dialog with the same form as in the previous topic. The difference is that what you choose to provision now will be sent to all selected systems.

System dialing properties

Changing a video conferencing system's dialing properties can be done in three different ways:

Option 1 – Edit system details

Start by navigation to **Enhanced Room Management > Systems** followed by selecting the system for which you want to make the changes. Once inside the system dashboard, click on the pencil () icon in the upper right of the page to access the edit dialog for the system.

In the dialog you get a form with the system's different details, please read [Adding a new system](#) for more information about the different fields. You can then change the field values as you wish and click "Update" to save the system details to Enhanced Room Management.

i Note that the dialing properties changed will be updated on the system only after these have been provisioned.

After clicking on "Update", a dialog notice will appear if you have changed values that requires provisioning. From the dialog, you can directly jump on to the provisioning view for the system.

Once in the provisioning view, your changes from above should now automatically appear under "Dialing properties", then click "Apply" located at the bottom to provision the settings to the system. You can also choose "Schedule for the night" to make the provisioning run at night.

Option 2 – Direct provisioning

Start by navigation to **Enhanced Room Management > Systems** followed by selecting the system for which you want to make the changes. From the system dashboard click on the "Provisioning" tab located under the heading of the page.

In the provisioning view you can then make your changes under "Dialing properties" and click on "Apply" to directly provision the settings to the system and at the same time be save them to Enhanced Room Management. You can also choose "Schedule for the night" to make the provisioning run at night.

Option 3 – Bulk provisioning

If you want to change only the SIP proxy and H.323 gatekeeper settings, you can do this directly via the system list in Enhanced Room Management. Start by navigation to **Enhanced Room Management > Systems**.

From the system list, check the checkbox for the system (or multiple system) for which you want to make the changes. This will show a bulk dialog at the bottom right of the screen where the "Provisioning" option will open up a provisioning dialog. In the dialog, select "Dialing properties" and make your changes.

When you are satisfied with your choices you can either click "Apply" to provision the new settings immediately, or click "Schedule for the night" to make the provisioning run at night.

Configurations

Provision configurations for one or more video conferencing systems simultaneously.

To update the configurations, start by navigating to **Enhanced Room Management > Systems** and select the system for which you want to provision new configurations. Then click on the "Configuration" tab which is located just below the page title.

Configurations overview

You can update the system configurations in two ways, either by selecting the configs you wish to update directly from the configuration list using the checkboxes, or by click on the "Load template" () button to load an already saved template with selected configs and values.

Once you have a selected number of configs, these will appear at the top of the page in the "Selected configurations" dropdown. You can clear all your selections by clicking the "Clear" () button.

When you are satisfied with the choices of configurations proceed by clicking on "Review" () to get an overview of the choices you have made.

Apply configurations

Once you have reviewed the selected configurations, you can provision them easily by clicking on “Apply” () button at the top right of the page. This will open up a results dialog where you can follow the provisioning of your configurations as well as see the status and more information for each individual event.

Apply to multiple systems

To apply the configurations to several systems at the same time, do the same steps as above. With the only difference being in the review view where you click on “Select system” which shows a list of all your managed video conferencing systems.


The system you are currently viewing will be pre-selected and you can easily select other systems before clicking on the “Apply” () button to provision your configurations to all the selected systems at the same time.

Save template

Inside the review of your selected configs, you have the choice to save these as a template by clicking on the “Save template” () button at the top right which makes it possible to reuse them at a later time.

Commands

To provision commands to a system, start by navigating to the system for which you want to send commands. Then click on the “Commands” tab which is located under the heading of the page.

 Note that commands will not be displayed for passive systems unless there is an earlier version of commands cached for the specific system. See [Commands for passive systems](#) for more information

Commands overview

To run a command directly, you simply click the “Run” button for a specific command, this will open a result dialog where you can follow the provisioning process and get more information.

You can also choose to queue commands to either save them as a new template, or run all commands in the queue directly. You do this by using the “Queue” button for the different commands that you want to add to the queue.

The commands you have chosen to queue will be displayed at the top of the page in the “Queued commands” dropdown. Here you also have the option to clear the queue by clicking on the “Clear” () button.

When you are satisfied with the commands that you have placed in queue proceed by clicking on the “Review” () button to get an overview of the choices you have made.

Apply commands

Once you have reviewed your queued commands, you can provision them easily by clicking on the “Apply” () button at the top right of the page. This will open up a results dialog where you can follow the provisioning of your commands as well as see the status and more information for each individual event.

Apply to multiple systems

To apply the command queue to several systems at the same time, do same steps as above. With the only difference being in the review view where you click on “Select system” which shows a list of all your managed video conferencing systems.

The system you are currently viewing will be pre-selected and you can easily select other systems before clicking on the “Apply” () button to provision your command queue to all the selected systems at the same time.

Save template

In the review of your queued commands, you have the choice to save these as a template by clicking on the “Save template” () button at the top right, which makes it possible to reuse them at a later time.


Load template

If you already have a template saved with commands that you want to load click on “Load template” () button located at the top to load the template to your active command queue.

Commands for passive systems

For systems that do not have an active connection, the list of commands for the system cannot be loaded automatically. In these cases, an error message for missing active connection will appear under the “Commands” tab.

To proceed start by downloading XML files for both commands and valuespace for the system, which you can then upload to access the commands that apply to the system.

-  Note that this support is not available for all types of systems, please see documentation for the specific system for further information.

Enhanced Room Management: address books

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Address books

In Enhanced Room Management you will find powerful management of address books. Address books can be provisioned to one or more of your available video conferencing systems.

Each address book can have its own manual entries along with external sources such as eg. copy of another address book or addresses of managed room systems. Features like duplicating, exporting to excel and much more are also available.

The first thing you encounter after navigating to `Enhanced Room Management > Address books` is an overview of all your existing address books.

Page actions

In the top right of the page you will find these different page actions:

- [Create a new address book](#)
- Refresh the current page.
- Link to Pexip documentation.

Address books overview

The table shows all your previously added address books. Use the search function and filtering button () located above the table to quickly find the address book you are looking for. The table consists of the following columns:

- **Name** – Address book name
- **Type** – Manual or external address book
- **Actions:**
 - Edit the address book, clicking on the name of the address book will bring you to the editing view aswell.
 - Duplicate the address book
 - Remove the address book

Create a new address book

By clicking on the () icon from the [page actions](#) shows a dialog to create a new address book. In the dialog, you start by typing a name for the address book.

You can also choose to tag the address book as an external address book which will allow you to enter the url for search address (TMS SOAP), and also the url for external editing. When you are satisfied with your choices, click on “Save” to create your new address book.

After the address book has been created, you are automatically redirected to continue working with the contents. Read more about this in the section [Address book details](#).

Address book details

When editing an existing address book, the first thing that comes up is a review of all the entries for the address book. Quickly search the list by typing in the search input located in the top left of the table.

Start by navigating to the specific address book via [Enhanced Room Management > Address books](#) and click on your desired address book. Note that the first view “Content” is only for reviewing the contents of the address book while editing is done via other views.

Page actions

In the top right of the page you will find these different page actions:

- – Exports address book entries to Excel.
- – Show search information for the address book.
- – Removes address book from Enhanced Room Management.
- – Refresh page.
- – Documentation.

Address book content

The columns of the address book entries consist of the following:

- **Title** – Title of the address book entry.
- **Group** – The entry group.
- **External** – If the post comes from an external source.
- **SIP** – Entry SIP address.
- **H.323** – Entry H.323 address.

Grouping

You will find the grouping button () at the top right of the list, clicking this button will display the grouping dialog. Note that with larger screen resolution, grouping is instead placed to the left of the list for faster access. The available options for grouping is based on the groups defined for the address book

When you have selected either a single or multiple groups then click “Apply” in the dialog to update the list. Note that on larger screen resolution the room system list will be updated directly when changing your selection in the grouping form.

Navigation

You navigate the address book via the tabs located directly below the address book title. Below you will find more details about the different available areas.

Content

The first tab is “Content” which takes you back to the reviewing the address book content which is described earlier in this section.

Edit

In this view you get an overview of all your manual entries in the address book and where you have the opportunity to create, delete and edit entries. Read more about how to work with manual content in the documentation [Manual entries](#).

Groups

Even if you always have the opportunity to create new groups for entries when you edit the address book, there is also a more clear overview of all your groups via this view. Read more about how to work with groups in the documentation [Managing groups](#).

Synchronized sources

Enhanced Room Management address books support different types of external sources that you manage through this view. Read more in detail about how to work with external sources in the documentation [Synchronized sources](#).

Manual entries

In addition to external sources, Enhanced Room Management address books have support for adding your own manual entries that are provisioned to selected room systems together with all other address book entries.

To manage manual entries, start by navigating to the specific address book via [Enhanced Room Management > Address books](#) and click on the desired address book. From the [address book details view](#), click on to the “Edit” tab which is located under the address book title to continue.

Page actions

In the top right of the page you will find these different page actions:

- – [Add single entry](#).
- – [Add multiple entries](#).
- – Exports entries to Excel.
- – Refresh page.
- – Documentation.

Address book manual content

Similar to the list of entries on the start page of the address book, the contents of the address book are displayed in this list, the difference is that only entries that have been manually added are displayed as well as editing options.

The columns of the address book entries consist of the following:

- **Title** – Title of the address book entry.
- **Group** – The entry group.
- **External** – If the post comes from an external source.
- **SIP** – Entry SIP address
- **H.323** – Entry H.323 address
- **Actions:**
 - – Edit entry
 - – Delete entry

Grouping

You will find the grouping button () at the top right of the list, clicking this button will display the grouping dialog. Please note that with larger screen resolution, grouping is instead placed to the left of the list for faster access. The available options for grouping is based on the groups defined for the address book

When you have selected either a single or multiple groups then click “Apply” in the dialog to update the list. Note that on larger screen resolution the room system list will be updated directly when changing your selection in the grouping form.

Add single entry

To add a new entry, click on the () icon in the [page actions](#) which will show a dialog with a create form. The form contains these available fields:

- **Title** – Title of the address book entry.
- **Description** – A discription for the entry
- **Group** – The entry group.
- **SIP** – Entry SIP address
- **H.323** – Entry H.323 address
- **H.323 E.164 alias** – Alias for H.323 E.164
- **Phone number** – The entry phone number

When you are happy with your wells, then click the “Add” button to add the new entry to your address book.

Add multiple entries

To add multiple entries simultaneously, click on the () icon from the [page actions](#) which will show a dialog with a create form with the same fields as when adding a single entry. The difference is that the form is now table-based where it is easy to enter one entry per line.

Via the dialog you may also add multiple systems from an Excel file (.csv, .xls, .xlsx) and choose the appropriate columns as you import entries. Start by clicking “From Excel” located at the top followed by selecting the file that you want to import.

Managing groups

It is easy for address books to become difficult to navigate as the content grows larger. That’s why Enhanced Room Management address books have built-in support for dividing your entries into groups for better structure.

Even if you always have the opportunity to create new groups for entries when you edit the address book, this view gives a more clear overview of all your groups.

To manage groups, start by navigating to `Enhanced Room Management > Address books` and click on your desired address book. From the [address book details view](#), click on to the “Groups” tab which is located under the address book title to continue.

Page actions

In the top right of the page you will find these different page actions:

- – [Add a new group](#).
- – Refresh page.
- – Documentation.

Group tree view

On the page, you get tree overview of all available groups that are grouped with parents and child groups. Use the search field at the top left to quickly find what you are looking for. There are also actions on the far right for each individual group:

- – Add child group
- – Edit group
- – Delete group

If a group has child groups a () icon appears to the left to be able to toggle these.

Add a new group

There are two ways to add new groups to the group tree. Either click on the () icon from the [page actions](#), or click on the () icon from any existing group in the tree view to create a child group.

This will show a dialog where you simply fill in the name, and select the parent group (if any) of the new group and then click on “Save” to continue.

Synchronized sources

Enhanced Room Management address books have powerful support for adding synchronized sources to make your work easier.

To manage external sources, start by navigating to `Enhanced Room Management > Address books` and click on your desired address book. From the [address book details view](#), click on to the “Synchronized sources” tab which is located under the address book title to continue.

Page actions

In the top right of the page you will find these different page actions:

- – [Add a new source.](#)
- – Refresh page.
- – Documentation.

Synchronized sources overview

The first thing that appears on the page is a list of all the existing sources that you have already added to the address book, these can be deleted by clicking on the () icon at the far right of the row.

Add a new source

To add a new source start by clicking on the () icon from [page actions](#) which shows a dialog to add a new source. The form for adding a new source consists of the following:

- **Description** – Description of the source you are adding. Used primarily to identify the source in the overview of all sources.
- **Add to sub group** – Groups/folder structure and records will be synchronized to this folder. Leave blank to sync to master level.

The next step is to select the type of synchronized source to add:

Managed video conferencing systems

Add addresses for the video conferencing systems managed by Enhanced Room Management. Start by choosing whether it should only apply to systems under a specific organizational unit, and then make the choices below:

- **Merge subfolders** – Check this option to merge subfolders into one folder for the systems.
- **Also include hidden systems** – Check this option to include all systems, even the systems that are tagged as hidden.

TMS

Add addresses from an existing TMS, enter the **URL for PhonebookSearch** and enter the **MAC address for identification** to proceed.

Copy of address book

To enable merging of different address books, there is support for adding content from an existing address book. Simply select an existing address book and the entries from the selected address book will be synchronized.

Firmware

To simplify working with firmware, Enhanced Room Management has a register where you can easily manage different firmware versions for all your video conferencing systems.

To manage firmware, start by navigating to **Enhanced Room Management > Firmware** which takes you to the overview of your previously added firmware. Note that in your Enhanced Room Management installations, you need to take the disk space of firmware files into consideration. Each firmware version may require 1-2 GB of additional storage space.

Page actions

In the top right of the page you will find these different page actions:

- – [Add new firmware.](#)
- – Refresh page.
- – Documentation.

Firmware overview

The table shows previously added firmwares with the following columns:

- **Version** – The version you specified for the firmware.
- **File name** – The firmware file name.
- **Product** – The product the firmware applies to.
- **Uploaded** – Date and time when the firmware was added.
- **Actions:**
 - – Duplicate the firmware.
 - – Download the firmware.
 - – Delete the firmware.

Filtration

You will find the filter button () at the top right of the firmware list, clicking this button will display the filtering dialog where you can filter firmware by product type.

Add new firmware

Click on the () icon from the [page actions](#), a dialog will appear where you specify the version of the firmware, which product that applies and the firmware file. When you are done, click the “Upload” button to add your new firmware to Enhanced Room Management.

After your new firmware has been uploaded, you can then provision this to any number of video conferencing systems. Read more about how to proceed via the documentation [Provisioning](#).

Panels and macros

A powerful way to add value to your meeting room experience is by using room controls which adds new features for the rooms touch panel of Cisco/webex room systems.

Different rooms also have different needs, where a problem has been to provision room controls to different parts of the organization meeting rooms. This is something we solve with Enhanced Room Management, add all your room controls to the room control registry and provision them to any selection of systems.

Support is also available to save a selection of room controls as collections, which simplifies the workflow when, for example, a new room system is added.

Room controls

Add value to your meeting room experience is by using room controls which adds new features for the rooms touch panel of Cisco/webex room systems.

To manage room controls, start by navigating to `Enhanced Room Management > Panels and macros` to get an overview of all available room controls.

Page actions

In the top right of the page you will find these different page actions:

- – [Add a new room control.](#)
- – Refresh page.
- – Documentation.

Room controls overview

In the overview, all the different room controls appear as their own widget with title, description and tools.

Room control widget

The room control widget shows the title, description and how many files it consists of. It is also marked with `Panel` if the room control contains xml files and `Macro` if there are js files. The checkbox in the widget is used to perform bulk actions for most room controls at the same time. Each widget also has these actions located at the bottom:

- – [Edit the room control.](#)
- – Download the room control.

Add a new room control

To add a new entry, click on the () icon from the [page actions](#) which will show a dialog with a create form. The form contains these available fields:

- **Title** – Room control title
- **Description** – Description for the room control
- **Files** – Select multiple xml and js files for your room control, or select the tab “Zip” to import a zip file for the room control.

Edit room controls

When you click on the () icon for a specific room control widget, the editing dialog appears, which you navigate with the tabs located at the top of the dialog. The different parts of the dialog are described in more detail below:

- **Content** – Title and description of the room control.
- **Files** – The different files that the room control consists of.
- **Upload** – Upload new files for the room control.

- **Systems** – Shows a list of video conferencing systems that currently have the collection installed, with option to reinstall the collection.
- **Remove** – Option to remove the collection.

Bulk actions

In the overview of room controls, each room control widget has a checkbox in the left corner, this enables you to select several room controls at the same time, which shows a dialog at the bottom left with bulk actions.

Create collection

Enables you to select multiple room controls and create a “collection”, which simplifies when, for example, a new video conferencing system is added to Enhanced Room Management. Read more about how to work with collections in the documentation [Collections](#).

Download

By clicking on download, a dialog opens with the possibility of generating a link to export the selected room controls.

Collections

Enhanced Room Management simplifies the workflow when, for example, a new video conference system is added where there is support for saving a selection of room controls as collections.

To manage room controls, start by navigating to `Enhanced Room Management > Panels and macros`. Use the tabs located under the page title and navigate to the tab “Collections” to get an overview of all saved collections.

Collections overview

In the overview, all the different collections appear as their own widget with title, description and tools.

Room control widget

The collection widget shows the title, description and how many files the collection consists of. It is also shows the total number of room controls the collection consists of. Each widget also has these actions located at the bottom:

- – [Edit the collection](#).
- – Download the collection.

Edit collection

When you click on the () icon for a specific collection widget, the editing dialog appears, which you navigate with the tabs located at the top of the dialog. The different parts of the dialog are described in more detail below:

- **Content** – Title and description of the collection.
- **Controls** – Room controls that the collection consists of, you can add or remove room controls of you choosing.
- **Systems** – Shows a list of video conferencing systems that currently have the collection installed, with option to reinstall the collection.
- **Remove** – Option to remove the collection.

Call statistics

Enhanced Room Management supports generating reports for your video conferencing system's call statistics and usage.

Call statistics is found by navigating to **Enhanced Room Management > Call statistics** then select a time period and filtering options to generate your statistics report.

Filtering

The first filtering option is from and to the date that is visible at the top left. More advanced filtering is available by using the filter button () located at the top right, clicking this button will display the filtering dialog where these options are available:

- **Select system** – Only show statistics for a selection of systems.
- **Organization unit** – Only show statistics for a certain organization unit.
- **Debug info** – Include debug information in the report. Note that option for generating debug data are only available to users with staff permission, or if it is enabled for regular users from “Security and privacy” settings under **Enhanced Room Management > Admin > Settings**.

After you are satisfied with your choices, click “Apply” to generate a new report.

Statistics report

When you have selected your filtering options, a report with statistics for the selected time period appears. At the top of the report you will find tabs for navigating which are described below:

Overview

The first thing that appears after a report has been generated is an overview with a diagram of how many hours per day the systems have been in call. You can also export the report to Excel from this view.

Participants

Displays a list of all participants in the calls, as well as the number of hours and the number of calls for each individual participant.

Group

A list of all calls grouped on which organizational unit they belong to by number of hours and total number of calls for each individual group.

Debug – Calls

Shows all individual calls, which group, start time, stop time, how many participants and the length of each call.

Debug – Participants

Displays a list of all participants who participated in meetings. Which call, group, start time and end time each individual participant has had.

Export

You can export the report via the “Overview” tab where you will find the export button at the top right (). If you have chosen to include debug information in the report, there is also a separate button for exporting the debug data.

People count

By using people count and call statistics from room systems and call controls such as Cisco Expressway, you can create powerful reporting from both online and offline meetings in conference rooms.

People count enables real time monitoring of meeting room usage, analysis of ghost meetings and scheduling efficiency as well as facility management for decision making. You access Enhanced Room Management people count by navigating to [Enhanced Room Management > People count](#).

People count overview

At the top of the page, you get a quick compilation of all video conferencing systems that support people count and its use.

The table further down includes status indicator and current people count for all systems:

- **Name** – The name and product of the system.
- **People count** – The current people count and total seats for the system.
- **Status:**
 - – **Free** – The system is online but has no people nearby.
 - – **Scheduled meeting** – The system has a scheduled meeting.
 - – **Meeting** – The system has a scheduled meeting with people present.
 - – **Ghost meeting** – The system has a scheduled meeting but no people present.
 - – **Offline** – The system is offline.
 - – **Warning** – Something is wrong with the system tracking.

Filtering and grouping

Filtering and grouping work in the same way as for the list when video conferencing systems are managed via [Enhanced Room Management > Systems](#). Please see the “Filtering and grouping” section in the [Systems documentation](#) for more information regarding this topic.

Enhanced Room Management: administration

Enhanced Room Management has admin settings and features for a number of different areas.

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Settings

As an administrator, you have access to various default settings in Enhanced Room Management.

You can access the settings by navigating to `Enhanced Room Management > Admin > Settings` via the navigation in the left sidebar. This will take you to the various settings forms described in detail below.

Base settings

- **Default address book** – Which address book that should be the default when e.g. a new system is added.
- **Default branding profile** – Which branding profile that should be the default when e.g. a new system is added.
- **HTTP feedback slot** – Determines which HTTP feedback slot to use by default when subscribing to live updates is provisioned to the system.
- **First and last hour of night time** – When provisioning is scheduled to run at night, it takes place within this time interval.

Security and privacy

- **Default password** – Add a list of passwords that Enhanced Room Management should try to use if a new system is added. Note, when a new password is provisioned to a system and the default password option is activated, the first password from this setting will be used.
- **Enable debug reports for users without administrator rights** – By default, only users with administrator permissions can generate debug data for statistics reports. This setting allows other users to use this as well.
- **Passive provision address key** – Which address key to use for passive provisioning.
- **Public CA certificates** – Support for adding one or more consecutive PEM formats.

Dial settings

- **Dial-in protocol** – Specifies the protocol to use for dial-in.
- **Default SIP proxy** – Determines whether a default SIP proxy should be used when dialing properties are provisioned to systems.
- **Default SIP proxy user name** – The SIP proxy user name.
- **Default SIP proxy password** – The SIP proxy password.
- **Standard H323 gatekeeper** – Determines if a H323 gatekeeper address should be pre-filled when dialing properties are provisioned to systems.

New systems

- **Automatically register new systems from these IP series** – Enter the IP series for systems that you want to be automatically registered to Enhanced Room Management.
- **Automatically approve and try to create active connection** – This option is only available if there is a default password specified in the “Security and privacy” settings. When a new system is registered, it will automatically try to create an active connection to the system. Note that the default password will be forwarded to the system.

Backend admin

Backend admin settings are only available to users with superuser permissions and they should only be changed on guidance from Pexip support.

Organization tree

A powerful way to get better structure over your video conferencing systems is to use Enhanced Room Management organization units.

By adding systems to organization units, you can better filter the systems and also get statistics based on the different units.

You can easily add new organization units when you edit e.g. video conferencing system. Via Enhanced Room Management admin views there is also a more clear overview with editing options described below, you access this view via [Enhanced Room Management > Admin > Organization tree](#).

Page actions

In the top right of the page you will find these different page actions:

- – [Add a new organization.](#)
- – Refresh page.
- – Documentation.

Organization tree view

On the page, you get a clear overview of all available organization units that are grouped with parents and child groups. Use the search field at the top left to quickly find what you are looking for. There are also actions on the far right for each individual group:

- – Add child group
- – Edit group
- – Delete group

If a group has child organization units an arrow () icon appears to the left where you are able to toggle the child units.

Add a new organization

There are two ways to add new organizations to the group tree. Either click on the () icon from the [page actions](#), or click on the () icon from any existing group to create a child organization.

This will show a dialog where you simply fill in the name, select the parent organization (if any) and click on “Save” to add your new organization unit to Enhanced Room Management.

Branding profiles

Enhanced Room Management has its own register of branding profiles where you can add, edit and delete different versions. Then use provisioning to send the branding profiles to your desired number of systems.

You manage the different branding profiles by navigating to [Enhanced Room Management > Admin > Branding profiles](#).

Page actions

In the top right of the page you will find these different page actions:

- – [Add branding profile.](#)
- – Refresh page.
- – Documentation.

Branding profiles overview

On the page you get an overview of all previously added branding profiles with the following columns:

- **Name** – Name of the branding profile.
- **Background active screen** – The brand image will be displayed as a background on both the main screen and on the touch panel when the video system is in the awake state. The recommended image size is 3840×2160 pixels. Note, this will disable OBTP and meeting info.
- **Logo** – This light brand logo will be displayed on a dark background in the bottom right corner on both the main screen and the touch panel. For best results, the logo should be an all white version without padding, in png format with a transparent background. The recommended size is 272×272 pixels.
- **Background, non-active screen** – The brand image will be displayed as a background on both the main screen and on the touch panel when the video system is in the halfwake state. The recommended image size is 3840×2160 pixels, in png or jpeg format.
- **Logo, non-active screen** – This light brand logo will be displayed on a dark background in the bottom right corner on both the main screen and the touch panel. For best results, the logo should be an all white version without padding, in png format with a transparent background. The recommended size is 272×272 pixels.
- **Virtual background camera** – This image will be displayed for the camera's virtual background. The recommended size is 1920×1080 pixels.
- **Actions:**
 - – **Edit profile** – This will show the same type of dialog for when adding a new branding profile, please see more details below.
 - – **Delete profile.**

Add branding profile

By clicking on the () icon from the [page actions](#) shows a dialog to add a new branding profile. In the dialog, start by typing a name followed by choosing which images to upload for the different modes available.

When you are satisfied, click “Add” to add the new profile. You can then provision the new branding profile to any desired number of systems, which you can read more about in the documentation [Provisioning](#).