Pexip Infinity v15.1
Release Notes

Contents

Introduction

This document contains the release notes for Pexip Infinity version 15.1.

Complete information about how to install and operate Pexip Infinity is available from the Pexip technical documentation website at docs.pexip.com.

The website also contains comprehensive documentation on all aspects of deploying the Pexip Infinity platform. This includes how to use the Infinity Connect client suite, and how to integrate Pexip Infinity with other third-party systems and call control solutions including Microsoft Lync, Cisco Unified Communications Manager, Cisco VCS and Polycom DMA.

Management Node host server sizing information

You must ensure that the Management Node host server has 2 cores and 4 GB of RAM for any deployments with more than 10 Conferencing Nodes. We recommend 4 cores and 6 GB of RAM for any deployments with more than 30 Conferencing Nodes.

Upgrading to version 15.1

Upgrading from version 8 or later to version 15.1

During the upgrade process, each Conferencing Node is selected, one at a time, and is automatically placed into maintenance mode. It then waits for up to 1 hour for calls to finish on that node before performing the upgrade and then putting that node back into active service. After each node is upgraded (or the hour time limit is reached), the next Conferencing Node is selected, placed into maintenance mode and upgraded, and so on until all Conferencing Nodes have been upgraded.

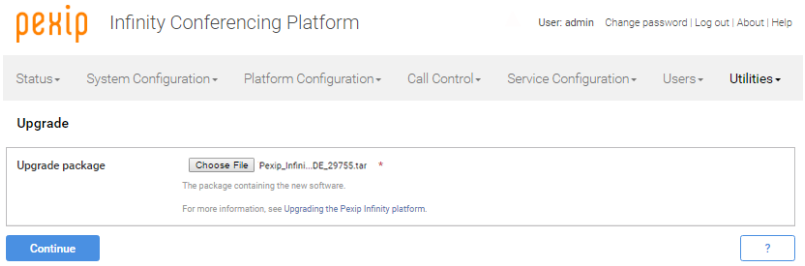
Alternatively, to avoid unpredictable system behavior due to Conferencing Nodes running conflicting software versions, you may want to manually put **all** of your Conferencing Nodes into maintenance mode before initiating the upgrade process. This will allow all existing calls to finish, but will not admit **any** new calls. You should then actively monitor your Conferencing Nodes' status and manually take each node out of maintenance mode after it has been upgraded to the new software version, so that the system can start taking new calls again on those upgraded nodes.

During an upgrade from version 11 or earlier to version 12 or later you will not be able to host any conferences on those Conferencing Nodes that are still running the earlier software version. You will experience "No valid license available" errors should anybody try to join a conference on those nodes. Those nodes will be able to host conferences again as soon as they have been upgraded to the new software.

To upgrade Pexip Infinity software from v8 or later to v15.1:

1. Before upgrading an on-prem deployment, we recommend that you use your hypervisor's snapshot functionality to take a full VMware/Hyper-V snapshot of the Management Node. If upgrading from v8, due to incompatibilities resolved in v8.1, ensure that you take a non-quiescing snapshot. This snapshot will be required should you later need to downgrade, or if the upgrade fails. You may also want to take a snapshot of each Conferencing Node, although depending on the size and complexity of your deployment it may be easier to simply redeploy these from the Management Node in the unlikely event that this is required.

   Before upgrading a cloud-based deployment (AWS or Azure), you should backup the Management Node via Pexip Infinity's inbuilt mechanism (**Utilities > Backup/Restore**).
2. Download the Pexip Infinity upgrade package for v15.1 from www.pexip.com/software-download.
3. From the Pexip Infinity Administrator interface, go to **Utilities > Upgrade**.
4. Select **Choose File** and browse to the location of the upgrade package.



5. Select **Continue**. There will be a short delay while the upgrade package is uploaded.

   After the upgrade package has been uploaded, you are presented with a confirmation page showing details of the existing software version and the upgrade version.
6. To proceed, select **Start upgrade**.

   You are taken to the **Upgrade Status** page, showing the current upgrade status of the Management Node and all Conferencing Nodes. This page automatically refreshes every 5 seconds.
7. When the upgrade completes, all systems will show a status of **No upgrade in progress** and have the new **Installed version**.

   If a Conferencing Node fails to upgrade, for example if it remains on a **Waiting for calls to clear** status, it should be rebooted. The upgrade process will then continue as expected.

If you are using VMware snapshots for backup purposes, we recommend that you delete those snapshots after approximately two weeks, providing your upgraded system is operating as expected. This is because Virtual Machines, in general, should not run with snapshots over time.

For full details on upgrading Pexip Infinity, see the Upgrading the Pexip Infinity platform.

Upgrading from versions 3-7 to version 15.1

If you are running a Pexip Infinity software version between v3 and v7 inclusive, to upgrade to the latest version, you must first upgrade to version 8. To do this:

1. Download the Pexip Infinity v8 upgrade file (contact your Pexip authorized support representative for the link to this file).
2. Follow the steps outlined in Upgrading to version 15.1, but when asked to **Choose File** browse to the location of the **v8** upgrade file.
3. Verify that the upgrade has completed successfully.
4. Download the Pexip Infinity **v15.1** upgrade file.
5. Follow the steps outlined in Upgrading to version 15.1, and when asked to **Choose File** browse to the location of the **v15.1** upgrade file.

New features and improvements in this release

You can go to https://docs.pexip.com/admin/whats_new.htm and follow the relevant links for more information about all of these features.

Version 15

Pexip Infinity platform

Feature	Description
VMR Scheduling for Exchange	The VMR Scheduling for Exchange feature allows you to create an add-in that enables Microsoft Outlook desktop and Web App users (using Office 365, Exchange 2013 (SP1 or later), or Exchange 2016) to schedule meetings using Pexip VMRs as a meeting resource. This feature is available as a separately licensed feature within the Pexip Infinity platform.
VMR licenses	A new licensing model has been introduced that requires a VMR license for each Virtual Meeting Room and Virtual Auditorium configured on the platform. This change does not affect customers on existing licenses who are upgrading to v15 - additional licenses are not required for these customers. If you have any further questions, please contact your Pexip authorized representative.
Proxying Edge Nodes *	You can deploy your Pexip Infinity system as either a mix of Proxying Edge Nodes and Transcoding Conferencing Nodes, or as a system that only contains Transcoding Conferencing Nodes. Prior to version 15 of Pexip Infinity, all Conferencing Nodes were, in effect, Transcoding Conferencing Nodes. A typical deployment scenario is to use Proxying Edge Nodes as a front for many privately-addressed Transcoding Conferencing Nodes. Those outward-facing proxying nodes would receive all the signaling and media from endpoints and other external systems, and then forward that media onto other internally-located transcoding nodes to perform the standard Pexip Infinity transcoding, gatewaying and conferencing hosting functions.
Dynamic bursting to Microsoft Azure	You can now utilize dynamic bursting to Conferencing Nodes hosted in a Microsoft Azure cloud service. (Pexip Infinity already previously supported dynamic bursting to Amazon Web Services.)
Improved resilience in Fusion links to Microsoft Lync and Skype for Business	Pexip Infinity now supports XOR-based Forward Error Correction (FEC) resulting in improved packet loss resilience in gateway calls from Pexip Infinity to Lync / Skype for Business meetings. There is better resilience when Pexip Infinity is acting as a gateway between Lync / Skype for Business and standards-based endpoints. If the connection to the Lync / Skype for Business meeting is lost, Pexip Infinity now attempts to re-establish the connection. Note that this does not apply to Pexip-hosted VMRs that have been merged into a Lync/SfB meeting.
Regex testing tool	The Pexip Infinity Administrator interface contains an inbuilt regex testing tool (**Utilities > Regular Expression Tester**).
New visual indicators for a locked conference	All Host participants on all endpoints now see visual indicators when a conference is locked or unlocked, and when other Guest participants are waiting to join a locked conference. The style and use of the indicators can be fully customized via themes. Also see Changes in functionality in this release, for more information about other theme changes in version 15.

* Technology preview only

Infinity Connect Web App

The Infinity Connect Web App is embedded in the Infinity Connect software, so its features are updated with each release of Infinity Connect.

Following are the changes to the Infinity Connect Web App in Pexip Infinity version 15:

Feature	Description
Changing camera/mic during a call	Chrome and Opera users can now change their camera and microphone while a call is in progress.
Screen sharing support in Firefox	You can share your screen when using the Infinity Connect Web App via Firefox (requires Firefox version 52 or later).

Changes in functionality in this release

Feature	Description
Multiple changes to the base Pexip theme	The following changes have been made to the base Pexip theme: • The base Pexip theme contains a new **connecting.jpg** file. This new "Connecting call" image is shown (instead of the "Welcome" image) when placing a person-to-person call via the Pexip Distributed Gateway, and when gatewaying individual participants into a Lync / Skype for Business meeting. • Themes no longer use a JPEG image file to specify the background color of the thumbnail that shows how many additional participants are in the conference. The **plus_n_indicator.jpg** file has been removed from the set of image files used in themes. Now, the background color of the thumbnail that shows how many additional participants are in the conference is controlled by a new **plus_n_indicator_bg_color** setting in the **themeconfig.json** file. The default thumbnail background color itself has not changed. ⓘ If you have customized your own themes and have used a custom **plus_n_indicator.jpg** file, you must update those themes to specify your required background color. You do this by adding the new **plus_n_indicator_bg_color** setting to your custom **themeconfig.json** file. You should also remove your custom **plus_n_indicator.jpg** file as this file is now ignored. If you do not update your themes, the default background color (dark gray) will be used instead. If you have customized your own themes but have **not** used a custom **plus_n_indicator.jpg** file, but the default **plus_n_indicator.jpg** file exists in your custom theme, then we recommend that you delete it to maintain consistency with the base theme. • New **conference_locked_indicator.png** and **conference_unlocked_indicator.png** files have been added; the default for both are solid white images against a fully transparent background. Accompanying text, and the ability to enable and disable the indicator, is configurable via the **themeconfig.json** file. • The default **audio_indicator.png** and **streaming_indicator.png** files have been changed and are now solid white images against a fully transparent background. • Previously, for indicators showing the number of additional audio participants, customers could specify both the color of the text and the color of the background against which the text and icons would appear. Now, the color of the background against which the text and icons appear is fixed to be semi-transparent (0x7f323232), and the text is fixed to be solid white. For this reason, `indicator_num_color` and `indicator_num_bg_color` are no longer used and have been removed from the **themeconfig.json** file. • `no_presentation_video_bg` has been removed from the **themeconfig.json** file.

Feature	Description
Change in behavior of audio-only indicators	When there are five or more audio-only participants, a single indicator will be present on the left-hand side of the video window that will display: • (when minimized) the audio-only icon followed by the total number of audio-only participants , or • (when expanded) the name of the current speaker, followed by the audio-only icon and the number of other audio-only participants.
Increased repeat interval for the "Waiting for the conference host to join" message	The repeat interval for the "Waiting for the conference host to join" message has been increased. It is now repeated every 30 seconds for video participants, and every 15 seconds for audio-only participants. Previously it was repeated every 10 seconds for all participant types.
Clashes detected during an LDAP synchronization process no longer override existing settings	Prior to version 15, any clashes that occurred when provisioning VMRs and devices from Active Directory via LDAP would result in the existing VMR or device alias properties being overwritten with the data generated from the template synchronization currently in progress. Now, any existing VMR properties, VMR-to-alias assignments, and device aliases are not overwritten.
Control-only Infinity Connect participants never consume a license	Prior to version 15, Infinity Connect control-only participants consumed a port license when sharing their screen, or sending or receiving full-motion HD presentations. From version 15, control-only participants will never consume a license.
Administrative improvements and modifications	This release contains the following administrative improvements and modifications: • New call quality analysis to assist administrative troubleshooting: the system now analyzes packet loss statistics so that when viewing the status of call participants you can see the current call quality and a graph showing the fluctuations in quality over the duration of the call. The call quality graph is also available when looking at historic call participant information. • Ability to specify the minimum time for which a dynamic bursting Conferencing Node is kept powered on. • TURN server addresses can be specified as an FQDN and can also be resolved through an SRV lookup. • Improved robustness during the upgrade process. For example, if an individual Conferencing Node does not restart successfully after upgrading, the upgrade process will continue with upgrading any remaining nodes. • Snapshots can be taken via the management API. • In the support log, support.sip log messages for UPDATE requests now generate verbose output (rather than summary output).
Stricter syntactic validation of HTTP requests	The HTTP server performs strict validation of HTTP requests. Correctly written clients (such as web browsers and the Infinity Connect desktop client) are unaffected by this change. Some reverse proxy configurations and badly-implemented clients may receive 400 Bad Request responses when accessing the Pexip Infinity APIs and web interface.
Support for VMware ESXi 6.5	Pexip Infinity now supports VMware ESXi 6.5.

Planned changes in future releases

Feature	Description
Make ***Automatic*** routing the default option within Infinity Connect when dialing out from a conference	Currently when dialing out from a conference via Infinity Connect, the default routing is ***Manual***, which means that the caller has to select the protocol to use to reach the callee. Most typical participants are not familiar with call protocols and may only know the alias of the person they want to invite into the conference and do not know the type of device or system that person is using. In future releases of Pexip Infinity, we intend to make ***Automatic*** routing the default option within Infinity Connect, with a longer-term goal of removing the automatic / protocol selection option altogether so that automatic routing is always used. With this in mind, we recommend that you start considering how you want outbound calls to be handled and plan your Call Routing Rules accordingly.

Issues fixed in version 15.1

Pexip

Ref #	Limitation
9728	Participants via CUCM who disconnect while receiving a presentation will no longer cause a call session to be kept alive in the system.
9584	Resolves an issue where H.323 endpoints registered to Pexip Infinity would not be treated as registered.
9575	Resolves an issue where, in very rare circumstances, participants whose audio into Pexip Infinity used G.722 or PCMU/PCMA may have found that their audio was dropped.
9555	Sometimes a large diagnostic snapshot would not have contained all intended files. This has now been resolved.
9469	Calls could take up to 10 seconds to establish if some Conferencing Nodes were offline. Offline Conferencing Nodes no longer affect call setup times.
9415	Local policy can now process calls to services that use non-ASCII aliases.
9391	When using local policy, the basic pass-through service configuration script will now successfully create a Virtual Auditorium.
9339	Provisioning emails for synced VMRs and devices can now be sent via an SMTP server that is configured with "StartTLS" connection security.
9096	The conference lock indicator shown for meeting hosts can now be disabled.
9069	Infinity Connect Web App via Chrome users who change their camera mid-call will no longer cause their microphone to unmute.
9030	Infinity Connect Web App via Firefox v52 and later users who elect to share their screen and then select "No Screen" from the Firefox dialog are no longer shown the option to install the screensharing extension.
8920	Media load on Proxying Edge Nodes can no longer exceed 100%.

Microsoft Lync and Skype for Business

Ref #	Limitation
9713	A race condition with ICE completion towards Lync / Skype for Business meetings causing a 488 error message has been resolved.
9620	Resolves a race condition where, under some circumstances, a VTC user who joined a Lync / Skype for Business meeting while VbSS was active would see the presentation but would not get main video from some Lync/SfB users.
9566	The streaming indicator is now shown to any connected VTC endpoints when a Lync/SfB meeting is recorded.
9479	An endpoint gatewayed via Pexip into a Skype for Business meeting with the role of Attendee no longer loses its connection if it starts presenting.
9227	Calls are no longer dropped if an endpoint that does not have a configured display name joins a Lync / Skype for Business meeting where somebody is presenting a PowerPoint file.
9149	Resolves an issue where, on very rare occasions, calls may have been dropped when Pexip Infinity attempts to re-establish a lost gateway connection to a Lync / Skype for Business meeting.
8482	VTC endpoints connected to a a Lync / Skype for Business meeting via Pexip will now start audio/video when allowed to send audio/video.

Avaya

Ref #	Limitation
9193	Setting up SIP calls with Avaya XT series endpoints no longer causes calls to be dropped.

Issues fixed in version 15

Pexip

Ref #	Limitation
8466	The Infinity Connect Web App now supports Microsoft Edge version 40.15025.1000.0.
8435	Calls are no longer dropped due to buffering issues when attempting to conceal many seconds of missing packets.
8264	Resolved an issue in version 14.x, where in some cases the Hardware Instability alarm would not lower after 24 hours without an event.
6001	An Infinity Connect Host participant who has joined a Host-PIN-protected conference as control-only (and there are no other Host participants) is no longer offered the green telephone icon next to a participant's name in the roster to let a Guest participant (who is waiting to join) into the conference.

Known limitations

Pexip

Ref #	Limitation
9413	When using Proxying Edge Nodes, if an RTMP streaming participant is added to a conference, the RTMP media is sent directly from a Transcoding Conferencing Node to the streaming server rather than from a Proxying Edge Node.
8987	When using the VMR Scheduling for Exchange service, there must be at least one VMR license available at the point at which Pexip Infinity attempts to create the scheduled VMR.
8905	Proxying Edge Nodes are a technology preview feature in v15 and are not yet optimized for scale and efficiency.
7906	If a caller dials into a Virtual Reception and enters the number of the conference they want to join, but there are insufficient hardware resources available to join the caller to that conference, the caller is disconnected from the Virtual Reception.
6739	Any changes made to VMR configuration — such as updating the participant limit — while the conference is ongoing do not take immediate effect, and may result in conference separation (i.e. new participants will join a separate VMR from those that are currently connected). All participants must disconnect from the conference for the change to take effect.
6411	Microsoft Edge browsers (which are WebRTC-compatible) cannot currently use STUN and thus cannot send media to Pexip Infinity via a TURN server. This means that Microsoft Edge users connecting to a conference from outside your network (via a reverse proxy) will not be able to send or receive audio/video.
4312	Occasionally, group chat messages may not be displayed to Infinity Connect Web App participants who are using Internet Explorer.

Cisco

Ref #	Limitation
4142	If the presentation channel already active from an MXP is taken by another connected participant, the MXP may not properly receive presentation content.

Microsoft

Microsoft Exchange

Ref #	Limitation
8825	With Microsoft's OWA for Android, when the **Add-ins** option is activated, any text already entered in the **Notes** section is deleted. To resolve this, VMR Scheduling for Exchange users should activate the Pexip add-in prior to adding any additional text.
8288	When Microsoft's OWA is used to connect to an Office 365 account and an add-in is activated, the absence of a horizontal scroll bar in the add-in panel may mean that not all text is visible. To view text in the add-in, VMR Scheduling for Exchange users should either widen the window or pop-out the meeting request.

Microsoft Lync and Skype for Business

Ref #	Limitation
9390	If a Skype for Business client running on Windows 7 attempts to record a Lync / Skype for Business meeting, the recording will not include any content from Pexip participants calling into the meeting through the Pexip Distributed Gateway.

Ref #	Limitation
9002	When an endpoint is gatewayed into a Lync/SfB meeting via a Proxying Edge Node, only the main speaker from the Lync/SfB meeting is shown on the endpoint; any other Lync/SfB participant thumbnails show as a broken camera.
8607	If a Surface Hub or Skype Room System takes over as presenter, participants who have joined the conference using Pexip Infinity as a gateway or for a fusion call will only see the first slide to be presented, even if subsequent slides are then sent.
8171	If a Lync 2010 client in a call with Pexip Infinity puts the call on hold, video does not properly resume when the call is resumed.
7709	Pexip Infinity receives 1280x720 resolution video from Skype for Business Mac clients, but only sends 512x288 to the Mac client.
5100	If a Conferencing Node being used as a gateway into a Lync/SfB meeting is near processor capacity and another endpoint in the Lync/SfB meeting starts sending content, a participant may be inadvertently disconnected from the conference. To resolve this, the endpoint can dial back into the conference.
4926	Participants calling into Lync / Skype for Business through the Pexip Distributed Gateway may experience inconsistent call rejection messages if a Conferencing Node is placed into maintenance mode.
4812	In some instances, one of two messages sent to a VMR from two Lync/SfB clients not previously connected may not be properly retained by the VMR. To resolve, re-send the message.
4195	Participants connected via the Pexip Distributed Gateway into a Lync/SfB meeting may not receive presentation content from Lync/SfB participants. This occurs if the Lync/SfB user has a screen resolution where the width is an odd number of pixels, such as a resolution of 1437x758. If this occurs, one workaround is for the user to share an application rather than their full desktop.

Microsoft Edge browsers

Ref #	Limitation
8133	When viewing the live platform status and conference status graphs in a Microsoft Edge browser, if there are any labels that contain a hyphen or dash the graph will not render correctly, and zooming or panning within the graph will leave traces of the label.