



Pexip Infinity v29

Release Notes

Software Version 29

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Introduction

This document contains the release notes for Pexip Infinity version 29.

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 administer and use the Infinity Connect client suite; how to configure Pexip Infinity features such as One-Touch Join, VMR Scheduling for Exchange and Pexip Service; and how to integrate Pexip Infinity with other third-party systems and call control solutions including Google Meet, Microsoft Teams, Microsoft Skype for Business and Lync, Cisco Unified Communications Manager, Cisco VCS and Polycom DMA.

Management Node host server sizing information

- For typical deployments of **up to 30** Conferencing Nodes, you must ensure that the Management Node host server has at least 4 cores and 4 GB of RAM.
- For deployments with **more than 30** Conferencing Nodes, you will need to increase the number of cores and the amount of RAM on the Management Node. Please contact your Pexip authorized support representative or your Pexip Solution Architect for guidance on Management Node sizing specific to your environment.

Upgrading to version 29

- i** Do not upgrade to version 29 if you have the **Enable restricted routing for Proxying Edge Nodes** option in **Global Settings** set to disabled.
- i** Please note, if you are running a software version between v22 and v26 inclusive, you must first upgrade to version 27 and then upgrade again to version 29, see [Upgrading from versions 22-26 to version 29](#).

Upgrading from version 27 or later to version 29

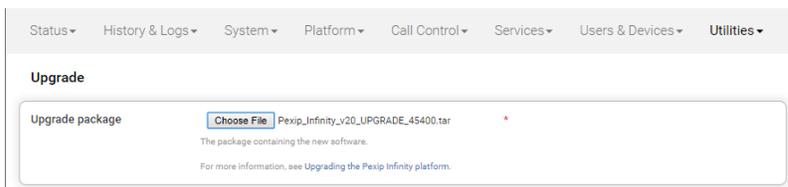
When the upgrade process starts, the Management Node is upgraded first. Then up to 10 Conferencing Nodes are selected and are automatically placed into maintenance mode. When all calls have finished on a node that is in maintenance mode, that node is upgraded and then put back into active service. Another Conferencing Node is then selected, placed into maintenance mode and upgraded, and so on until all Conferencing Nodes have been upgraded.

If all of the calls on a Conferencing Node that is in maintenance mode have not cleared after 1 hour, the node is taken out of maintenance mode and put at the back of the queue of nodes to be upgraded. A further attempt to upgrade that node will be made after all other nodes have been upgraded (or had upgrade attempts made). Up to 10 Conferencing Nodes may simultaneously be in maintenance mode or in the process of being upgraded at any one time.

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.

To upgrade Pexip Infinity software from v27 or later to v29:

- Before upgrading an on-premises deployment, we recommend that you use your hypervisor's snapshot functionality to take a full VMware/Hyper-V snapshot of the Management Node. 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 (after it has been rolled back) in the unlikely event that this is required.
Before upgrading a cloud-based deployment (Azure, AWS, GCP or Oracle), you should backup the Management Node via Pexip Infinity's inbuilt mechanism (**Utilities > Backup/Restore**).
- Download the Pexip Infinity upgrade package for v29 from the [Pexip download page](#).
- Before upgrading, ensure that all "always-on" Conferencing Nodes are powered on and are reachable (i.e. no Connectivity Loss errors), and are all running the same version from which you are upgrading. You do not need to power on any cloud bursting nodes.
- From the Pexip Infinity Administrator interface, go to **Utilities > Upgrade**.
- Select **Choose File** and browse to the location of the upgrade package.



- 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.
- 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.
- When the upgrade completes, all nodes 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 the upgrade process completes and there are some nodes that have failed to upgrade, you can restart the upgrade process by uploading the upgrade package to the Management Node again via **Utilities > Upgrade**. This will skip over any nodes that have already been upgraded.
 - If you are using these instructions to first upgrade from v25.0 or v25.1 to version 27 before upgrading to version 28, due to a known issue it is possible that the upgrade will complete on the Management Node but not automatically proceed to the Conferencing Nodes. To resolve this issue, simply upload the upgrade package again via **Utilities > Upgrade**.
9. If you have Pexip CVI for Microsoft Teams you must also upgrade your associated Teams Connector deployment in Azure to the same version as your Pexip Infinity deployment (including minor/"dot" releases).

i When upgrading your Teams Connector to version 29:

New upgrade steps for version 29

- You must install the Microsoft Graph PowerShell module by running the following PowerShell command (as Administrator):

```
Install-Module -Name Microsoft.Graph -MinimumVersion 1.9.2
```

Note that the installation of Graph can take 5-10 minutes. Wait until you get the PS prompt back (several minutes after the install reports as completed) before continuing.
- There is a new mandatory `$PxUseAzureHybridBenefit` variable you must specify in the variables script that defines whether to enable license optimization if your organization uses Azure Hybrid Benefit.

Standard upgrade steps

- You must use the latest version of the redeploy script as contained within the v29 documentation.
- You must be using Az module version 5.1.0 or later.
 - To check your installed version you can run:

```
Get-InstalledModule -Name Az -AllVersions
```
 - To install the latest appropriate Az version you can run:

```
Install-Module -Name Az -MinimumVersion 5.1.0 -AllowClobber -Scope AllUsers
```
- If you have deployed multiple Teams Connectors, you must follow the same redeploy process (with the appropriate variable initialization script) for each Teams Connector.
- As with all upgrades, you can continue to use the Pexip CVI app from your existing deployment.

Full instructions are available at https://docs.pexip.com/admin/teams_managing.htm#upgrading.

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 [Upgrading the Pexip Infinity platform](#).

Upgrading from versions 22-26 to version 29

If you are running a software version between v22 and v26 inclusive, you must first upgrade to version 27 and then upgrade again to version 29. To do this:

1. Before upgrading, ensure that all "always-on" Conferencing Nodes are powered on and are reachable (i.e. no Connectivity Loss errors), and are all running the same version from which you are upgrading. You do not need to power on any cloud bursting nodes.
2. Download the Pexip Infinity [v27 upgrade file](#).
3. Follow the steps outlined in [Upgrading from version 27 or later to version 29](#), but when asked to **Choose File** browse to the location of the **v27** upgrade file.
4. Verify that the upgrade has completed successfully.
5. Download the Pexip Infinity **v29** upgrade file.
6. Follow the steps outlined in [Upgrading from version 27 or later to version 29](#), and when asked to **Choose File** browse to the location of the **v29** 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.

This topic covers the Pexip Infinity platform; for new features in the latest release of the Infinity Connect web app see the [web app release notes](#).

Pexip Infinity platform

Feature	Description
Improved presentation-sharing behavior for Infinity Connect / WebRTC clients	<p>When an Infinity Connect / WebRTC client sends or receives presentation content (files or screen sharing), it is now sent via the existing call connection used for audio and video media. This means:</p> <ul style="list-style-type: none"> Improved presentation set-up times as it is no longer necessary to establish a second call. Improved hardware resource allocation as the presentation stream no longer requires any additional resources. Incoming presentation content is now viewed by Infinity Connect clients in full motion HD video by default. <p>Note that the internal PexRTC behavior has changed to support this feature. Any custom PexRTC developments that have not followed our documented API may no longer work correctly.</p>
Teams Connector enhancements: Azure licensing optimization, "failed sharing" messages for Attendees, and improved "Disable mic" synchronization	<p>Pexip's Cloud Video Interop (CVI) integration with Microsoft Teams has been enhanced:</p> <ul style="list-style-type: none"> If your organization participates in Microsoft's Azure Hybrid Benefit scheme, you can now use these licenses for your Teams Connector installations in Azure instead of purchasing separate licenses. This can be enabled by configuring the new (and mandatory) <code>\$PxUseAzureHybridBenefit</code> installation variable. If a CVI participant is an Attendee and attempts to share content from their endpoint, the sharing request is now denied and the attendee is informed via a message on their endpoint such as "Sharing failed" (the exact message depends on the endpoint). It now has full support for when a Teams client uses the "Disable mic" or "Disable mic for attendees" options on a VTC participant — the VTC's indicated mute status is now always in sync with Teams. The Teams Connector now requires the Microsoft Graph PowerShell module (you must install it as part of the installation or upgrade process). <p>Note that version 29 of the Teams Connector contains updates that necessitate an upgrade to your Pexip platform to ensure compatibility with the latest updates to the Microsoft Teams APIs and to the Teams Connector's latest features. We strongly recommend that you upgrade your Pexip deployment — both the Pexip Infinity platform and the Pexip Teams Connector — to version 29 as soon as practicable.</p>
Adaptive Composition enhancements to "presentation in mix" and conference indicators	<p>When using the Adaptive Composition layout:</p> <ul style="list-style-type: none"> When viewing presentation content as part of the layout mix, up to 12 other video participants are now displayed in addition to the presenter and the presentation itself. If the "presenter" is a group of people then up to 8 other participants are shown, plus the presenter. The conference indicators at the top of the layout now use different colors for different notification messages: audio speaker indicators have a green border, and messages such as locked, recording and transcribing have a red border. The messages also include the associated icon along with the message text.

Feature	Description
Administrative improvements to Live View and Administrator interface start page	<p>Pexip Infinity administrators can configure two new settings in Platform > Global Settings > Management Web Interface Configuration:</p> <ul style="list-style-type: none"> Show conferences and backplanes in Live View: controls whether conferences and backplanes are shown in the Live View graph. If you have a very busy deployment, it may be useful to disable conferences and backplanes from the Live View for an improved viewing experience. Management start page: controls the first page you are directed to after logging into the Administrator interface.
New "System integrity is compromised" administrator alarm	There is a new "System integrity is compromised" alarm which is raised if one or more of the Pexip Infinity system files have been modified by an external party/event.
Client TURN server provisioning and new TURN server authentication methods	<p>When configuring TURN servers for use with Pexip Infinity:</p> <ul style="list-style-type: none"> You can now select an authentication type of either <i>Username & Password</i> (previous behavior), or <i>Time-limited credentials</i> (new option to support the new Direct Media / end-to-end encryption feature) that requires the configuration of a shared secret. You must now configure the transport type for each TURN server (<i>UDP, TLS or TCP</i>). When defining system locations you can now specify one or more Client TURN servers that will be provisioned to Infinity Connect WebRTC clients that connect to a Conferencing Node in that location.
Google Meet interoperability improvements	Presentation content sent from a VTC endpoint to Google Meet now supports 1080p.
Voice activity detection improvements *	<p>We have improved the way in which voice activity is detected by better distinguishing between actual speech and background noise. This reduces the probability that people who are not speaking but have audible background noise will be switched into the main speaker position. Note that this does not remove any noise from the audio.</p> <p>When enabled it applies to all call types and all layouts.</p> <p>This is a technology preview feature and can be enabled via Platform > Global Settings > Tech Preview Features > Enable Voice Focus.</p>
End-to-end encrypted calls between two WebRTC participants *	<p>VMRs can now support non-transcoded, encrypted, point-to-point calls between two WebRTC participants.</p> <p>This is a technology preview feature and can be enabled via Platform > Global Settings > Tech Preview Features > Enable Direct Media, and then by enabling Direct Media on each required VMR (in the Advanced options section).</p>
Updated Infinity Connect web app *	<p>A technology preview of the next release of the Infinity Connect web app, Webapp3, is available. This release includes a completely new user interface and revised join flows, along with support for upcoming new Pexip Infinity features.</p> <p>Webapp3 can be accessed by appending <code>/webapp3/</code> to the IP address or domain name of a Conferencing Node (or reverse proxy) in a v29 Pexip Infinity deployment, for example:</p> <p><code>https://nightly.pexample.com/webapp3/</code></p>
* Technology preview only	

Changes in functionality in this release

This topic covers the Pexip Infinity platform; for changes in the latest release of the Infinity Connect web app see the [web app release notes](#).

Pexip Infinity platform

Notice to integrators using client APIs

WebRTC clients now send and receive presentation content via the call connection used for audio and video media:

- All media is now sent on a single, bundled call. If you are developing your own apps using our client API directly, this will require code changes.
- The PexRTC API remains backwards compatible. Please ensure you always pull the version from the Conferencing Node you are connecting to.
- The internal workings of the PexRTC API have changed considerably. Any custom PexRTC developments that have not followed our documented API may no longer work correctly.

Other changes

Feature	Description
Changes to formatting of Administrator Log and Support Log results	<p>In the Administrator Log and Support Log results, a value is enclosed by double quotes and sometimes there is an additional set of double quotes within the value which causes issues if you are manually parsing the logs.</p> <p>The occurrence of double quotes within double quotes is now escaped using a backslash. For example:</p> <pre>Instance="Type=\"vnr\"" Detail="Expiration-date=\"2-Jun-2022\""</pre> <p>Additionally, there are general updates to the log formatting which affect the casing of certain alphanumeric keys. Keys are now Kebab-Case by default. For example, <code>Call-id</code> is now <code>Call-Id</code>. If you currently parse the logs you may need to do case-insensitive matching on keys.</p>

Integrators and third-party developers: the changes in this section may necessitate updates to your applications, and lab testing is strongly encouraged. Please contact your Pexip authorized support representative if you need more information.

Planned changes in future releases

Feature	Description	More information
RTVideo codec, Lync Server 2010 and Lync 2010 clients no longer supported	Technical support for the RTVideo codec is deprecated since Pexip Infinity v25. The RTVideo codec will be removed completely in a future release which will then disable interoperability with Lync Server 2010 and Lync 2010 clients.	

Issues fixed in version 29

For a list of resolved issues in the current version of the Infinity Connect web app see the [web app release notes](#).

Pexip Infinity

Ref #	Resolution
29073	Resolved an issue in version 28 where certificate-based authentication could not be used to authenticate administrators logging in to Pexip Infinity.
28860	Improved the upgrade process to reduce the number of transient policy-related alarms.
28146	Resolved an issue where attempts to upload a media playback file result in an internal server error if your deployment upgrade path included v28.0 beta 1 to any other version 28 release.
26558	Administrators no longer see any <code>Unknown ioctl 1976</code> messages when connected via console to a Management Node or Conferencing Node.

One-Touch Join

Ref #	Resolution
28048	The default meeting processing rule for Zoom meetings where the <code>Include password</code> option is selected now supports meetings created in Google Calendar using the Zoom plugin.

Google Meet interoperability

Ref #	Resolution
28788	Resolved an issue where the audio from participants on low-quality connections joining via Pexip Infinity would not always be clear to participants connected directly to the meeting.
27658	Resolved an issue where, in certain layouts, the video from VTC endpoints did not appear as sharp as the video from Google Meet clients.

Known limitations

For a list of known limitations in the current release of the Infinity Connect web app see the [web app release notes](#).

Pexip Infinity

Ref #	Limitation
28917	If Enable restricted routing for Proxying Edge Nodes option in Global Settings is disabled (it is enabled by default) the platform will stop functioning.
27534	An Infinity Connect client that is paired to another video device (such as a SIP endpoint) cannot be used to connect to a Media Playback Service.
24424	Only 3 of the assigned DNS servers will be used by the Management Node or by a Conferencing Node (as configured in its associated system location).
19176	Changing the IP address of the Management Node and then manually rebooting before completing the installation wizard may result in failed connectivity to Conferencing Nodes. To work around this, you must ensure that you re-run and fully complete the installation wizard after changing the Management Node configuration.
16232	The Call-id is not logged on an administrative event when a Guest joins a conference and all Guests are muted.
16119	"License limit reached" alarms are not lowered as expected, even though an appropriate "Alarm lowered" message is logged.
15943	"Connectivity lost between nodes" alarms are not recorded in the alarm history (History & Logs > Alarm History).
13305	The G.719 codec is not currently supported for SIP.
12218	In some call scenarios that take a long time for the call setup to complete (for example calls that involve ICE, a Conferencing Node behind static NAT, and where the client is also behind a NAT) any audio prompts (such as requests to enter a PIN) may be played too early and the client may not hear all of the message.
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.
5601	When changing the certificates in a chain, a reboot of the associated Conferencing Nodes may be required if the changes do not produce the desired effect.

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.

Poly/Polycom

Ref #	Limitation
13541	When a Polycom Trio is registered to Skype for Business, and has dialed in to Pexip Infinity, it will receive presentation as main video from Pexip Infinity. However, when the same endpoint is dialed out to from Pexip Infinity, it will receive presentation as RDP.

Microsoft

Microsoft Skype for Business and Lync

Ref #	Limitation
17210	RDP presentation content from a Skype for Business meeting may sometimes take several seconds to render on VTC devices that are gatewayed into that meeting. One workaround is to use Video-based Screen Sharing (VbSS) instead of RDP for content sharing. If you must use RDP then you can configure your system to adjust the bandwidth used for RDP presentation which will reduce the delay in rendering the RDP content for the VTC device — contact your Pexip authorized support representative for configuration details.
13201	When a Skype for Business client is presenting PowerPoint slides in a Skype for Business meeting, sometimes only the first slide is sent to standards-based endpoints that are gatewayed into that meeting.
5100	If a Conferencing Node being used as a gateway into a Sfb/Lync meeting is near processor capacity and another endpoint in the Sfb/Lync 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 Skype for Business / Lync through the Infinity 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 Sfb/Lync clients not previously connected may not be properly retained by the VMR. To resolve, re-send the message.
4195	Participants connected via the Infinity Gateway into a Sfb/Lync meeting may not receive presentation content from Sfb/Lync participants. This occurs if the Sfb/Lync 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.

VMR Scheduling for Exchange

Ref #	Limitation
19530	When using Microsoft's OWA with Office 365 account, join instructions that use the <style> element will not be added, even though the "Success" message is displayed to the user.
16602	In some circumstances, users are not able to obtain a VMR for a meeting if an existing meeting invitation is being edited and has previously had a VMR assigned. This may happen if a user has previously activated the add-in when editing an invitation but then discarded their changes, or if the user has removed the information added to the invitation when the add-in was previously activated. By default, users will see a message "VMR already assigned".