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## **HP Remote Graphics Software Release Notes**

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### **Introduction**

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This document comprises the release notes for HP Remote Graphics Software. Topics covered in this document include the following:

1. What's new? - including defect fixes
2. Known Issues and Limitations

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### **What's new in Release 7.6.0**

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HP RGS 7.6 Sender supports Windows and Linux®.  
HP RGS 7.6 Receiver supports Windows, Linux®, and macOS™.

### **Operating System Notes**

- 1: RHEL 6.10 and 7.6 are supported.
- 2: ThinPro 7.0 is supported.
- 3: HP RGS install packages include only the 64-bit (and not the 32-bit).  
Windows Sender and Receiver.

### **Performance and bandwidth improvements**

- 1: Decreased idle CPU usage on Linux senders using HP3.
- 2: Increased performance for AVC on Windows 10 senders with Intel graphics.

### **Experience improvements**

- 1: RGS was modified to use the OS Keyboard Input Language on the sender system resulting in a seamless experience when switching languages. The sender and receiver keyboard input languages no longer need to match, and multiple OS Keyboard Input Languages may be defined on the sender and/or the receiver. All sender supported keyboard input languages work with RGS. To use the new keyboard experience, both RGS Sender and Receiver must be 7.6 or later.

2: A new property has been added for resolution matching on Windows Senders with NVIDIA graphics without a physical display. When enabled, the RGS Sender loads an EDID if the system is determined to have no physical displays attached. See the RGS User Guide for information about the property:  
Rgsender.Compatibility.Displays.ForceEdidOnHeadless

### **Defect fixes**

- 1: Addressed issues with AVC where the connection would drop or fail with hybrid graphics when the sender system has an external display, the screen is locked, or when the display goes into power save mode.
- 2: Addressed a resolution matching issue with Z2 Mini sender systems with NVIDIA graphics.
- 3: Addressed black screen and resolution matching issues on Windows sender systems without an attached display.
- 4: Addressed an issue on Linux and ThinPro Receivers where a borderless window could not be moved in setup mode.
- 5: Addressed an issue where AutoHotKey application remapping of the CapsLock key to a Control Key would not work with RGS.
- 6: Addressed an issue where the PAM module could not be used on Linux to filter connections with IP addresses.
- 7: Addressed an issue on ThinPro where the RGS launcher was not redisplayed if a connection to the sender system could not be completed.
- 8: Addressed an issue where Receiver cannot connect to Linux Sender if a user's home folder does not exist.
- 9: Addressed an issue where the HP RGS Sender would not find the Pre-load license for HP Z Workstations on Linux when Secure boot is enabled.

### **Known Issues**

- 1: RGS Sender and Receiver on Windows rely on Microsoft run-time libraries delivered with Windows Update. Installation can fail if the dependencies are not installed. For example, with a non-silent install of RGS on Windows 7 or 8.1, the installation can fail with the message, "The program can't start because api-ms-win-crt-runtime1-1-0.dll is missing from your computer." Windows Update must be used to install the Microsoft Security Monthly Quality Rollup before installing HP RGS.
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## What's new in Release 7.5.1

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Certificate notification dialog:

HP RGS attempts to verify the identity of the sender using a public-key infrastructure (PKI) certificate before a connection is made. By default, the HP RGS Sender creates a self-signed certificate, but can be configured to use a certificate issued by a Certificate Authority (CA).

By default, when users connect to a Sender, they will see a message about verification failure unless a certificate issued by a CA is configured or the Receiver's Certificate Verification Error Policy is changed to suppress errors. The best way for users to verify the identity of the sender if a CA certificate is not used, is to provide them with the Fingerprint of the Sender's certificate that they can compare with the Fingerprint displayed in the verification error message. See the User Guide for detailed information.

### Defect Fixes:

- 1: Address an intermittent layout matching issue with Linux and ThinPro receivers.

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## What's new in Release 7.5.0

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### Operating System Notes

- 1: RHEL 7.5 is supported

### Performance and bandwidth improvements

- 1: Bandwidth required for HP3 on Windows 10 is reduced.
- 2: HP3 performance increase on Windows and Linux Sender.
- 3: Experience controls Adaptive Image Quality is more responsive.

### Experience improvements

- 1: As of version 7.5, the operating system manages the HP RGS Receiver Window frame and scrollbars. The toolbar can now be repositioned horizontally by dragging it right or left by moving the cursor to the four dots at the left edge of the toolbar, pressing a mouse button and dragging right or left.

2: When the Receiver Window size is increased beyond the size of the Sender desktop, black bars will appear around the image. A new Hotkey, F, will fit the Receiver Window to the Sender desktop.

### **Defect fixes**

- 1: Fixed an issue where Leostream was unable to invoke 64-bit Receiver on Windows.
- 2: The UI on macOS has been fixed in several areas (e.g. fields with "+" and "-" controls now work as expected).
- 3: Fixed Advanced Video Compression and HP Velocity activation on Linux KVM systems.
- 4: Fixed an issue with remote audio on servers that depend on an audio driver rather than actual audio hardware.
- 5: Fixed an issue with the ReceiverConfigApp setting, "Process a CTL+ALT+DEL sequence on both the local and remote computers".
- 6: Fixed an issue where the RGS Receiver would intermittently hang on logout on RHEL 7.4.
- 7: Fixed a clipboard issue when selecting and copying or moving multiple cells in Excel.
- 8: Fixed an issue related to starting the Receiver from the command line. The Receiver GUI now correctly displays the hostname/IP address specified on the command line instead of the hostname/IP address from the previous connection.

### **Known Issues**

- 1: On Windows 10, the Sender diagnostics tab reports that "Changelist display model" is not available. This message is erroneous as the Changlist display model is not supported on Windows 8 or 10.

### **Future release planning**

- 1: In the future, only the 64-bit Windows Sender and Receiver will be released. The 32-bit versions will be discontinued.

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### **What's new in Release 7.4.1**

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HP RGS 7.4.1 is a release for Linux Senders

## **Defect Fixes:**

- 1: Resolve a hang at logout of a Linux sender when Match Resolution is enabled on the receiver.

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## **What's new in Release 7.4.0**

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HP RGS 7.4 Sender supports Windows and Linux. HP RGS 7.4 Receiver supports Windows, Linux, and macOS.

## **Floating License Server**

The FLEXnet license server for floating licenses must be version 11.14 or later to support RGS 7.4. Standard, HDI, and Trial licenses are not affected. The FLEXnet license server is included with the HP RGS package. See the Licensing Guide at [hp.com/go/RGS](http://hp.com/go/RGS) for more information.

## **Operating System Notes**

### Windows

- 1: Sixty-four bit versions of the Sender and Receiver for Windows are now available. If the 32-bit version of RGS is installed, the 64-bit installer may be used to upgrade to 64-bit RGS 7.4. Future versions of RGS will deliver only the 64-bit Sender and Receiver. The 32-bit version will be delivered at least until February of 2018. The 32 and 64-bit versions of RGS are compatible with each other. That is, a 32-bit Receiver can connect to either a 32 or 64-bit Sender and a 64-bit Receiver can connect to either a 32 or 64-bit Sender.

The 64-bit version of RGS is installed in C:\Program Files\HP by default.

- 2: Add support for Windows 10 Creators Update (Version 1703) and Fall Creators Update (Version 1709).
- 3: If the Windows 10 version is updated after installing HP RGS, Remote USB may stop working. Uninstall and then reinstall HP RGS

### Linux

- 1: Previously, one installer for the Sender and one installer for the Receiver were sufficient for all supported distributions of Linux. As of RGS 7.4, separate RGS installers are provided for different Linux Distributions.  
The Linux RGS Receiver Package contains two separate installers:
  - Receiver for RHEL 6.x
  - Receiver for RHEL 7.x and SUSE 12

The Linux RGS Sender and Receiver Package contains the two Receiver installers listed above plus installers for:

- Sender for RHEL 6.x
- Sender for RHEL 7.x and SUSE 12
- Sender for SUSE 11

2: Add support for RHEL 7.4 and SUSE 12 SP3.

3: Restarting the Linux Sender no longer requires a restart of the X Server.

4: A Receiver is no longer provided for SUSE Linux Enterprise Desktop 11.

#### **Defect Fixes:**

1: Fixed a Linux Receiver crash when using Advanced Video Compression

2: Linux Receiver to Linux Sender no longer generates erroneous noise during the initial connection when using audio

3: Toolbar functions are now available on touch devices when the virtual mouse is activated

4: Fixed an issue where the cursor was incorrect or missing on the macOS Receiver

5: The audio volume can now be adjusted on the sender system for RGS connections

6: Fixed an issue where Match Receiver display resolution was not working on headless Linux sender systems.

7: Fixed several cursor issues.

#### **Known Issues:**

1: A reboot may be required during an update of the Windows Receiver if Remote USB is installed.

2: RHEL 7.4 requires an update to GDM to avoid a problem where the login screen does not return after a logout. See Red Hat Bugzilla bug 1469755.

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#### **What's new in Release 7.3.3**

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HP RGS Release 7.3.3 is a release for Windows and Linux Senders and Receivers and the macOS Receiver.

## Defect Fixes:

- 1: Fixed an issue on Windows 10 where Single Sign On and Easy Login would fail when the user is required to press Ctrl+Alt+Delete before login.
- 2: Fixed an issue on Windows 7 where the Receiver would crash when Global Image Updates are disabled.
- 3: Added a "Connecting" message when network conditions delay initial display of the Sender desktop.
- 4: Fixed a crash when closing the Receiver with Advanced Video Compression (AVC) enabled.
- 5: Addressed a latency issue with connections using AVC.
- 6: Fixed a Sender crash on Windows 8 Virtual Machines using GPU passthrough.
- 7: Fixed a Match Resolution issue on Linux Senders configured with non-default monitor refresh configurations.
- 8: Fixed a macOS receiver disconnect when using a Japanese keyboard layout.

## Known Issues:

- 1: A reboot may be required during an update of the Receiver if Remote USB is installed.

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## What's new in Release 7.3.2

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HP RGS Release 7.3.2 is a release for Windows and Linux Senders and Receivers and the macOS Receiver.

## New features:

- 1: Support for SUSE Linux Enterprise 12.2.
- 2: Support for ThinPro v6.
- 3: Smart card redirection on Windows receiver supports a wider range of smart card reader devices including virtual smart cards. Smart card support is not backward compatible. To use the new solution, both sender and receiver must be RGS 7.3.2 or later
- 4: Smart card redirection is supported on the following senders: Windows 7, 8.1, and 10, and now RHEL 6, RHEL 7, and SUSE Linux Enterprise 12. Smartcard redirection is supported on Windows receivers only.

Remoting smart cards with Remote USB continues to be available on Windows and ThinPro receivers.

5: The MaxImageUpdateRate sender property now applies to AVC as well as HP3

#### **Defect Fixes:**

- 1: Fixed an issue on Windows senders with NVIDIA graphics where the RGS connection could consume unusually high network and CPU resources when the desktop is not changing.
- 2: Fixed a black screen when connecting to a ZBook notebook sender with Hybrid Graphics.
- 3: Fixed a crash caused by a sender having cloned/duplicate monitors with NVIDIA Resolution Matching enabled
- 4: Fixed a receiver crash in macOS Sierra when in Tabbed Mode.

#### **Known Issues:**

- 1: The smart card service on RHEL 7 may require additional configuration to start correctly. Add "`-c /etc/reader.conf.d/hpremotescr.conf`" to the pcsd startup script located at `/usr/lib/systemd/system/pcsd.service`. The ExecStart option in this file should be modified to appear as follows

```
ExecStart=/usr/sbin/pcsd --foreground --auto-exit -c /etc/reader.conf.d/hpremotescr.conf
```

- 2: On laptops with touch displays, the RGS receiver defaults to the touch interface. One of the behaviors is that Match Receiver display resolution is enabled and cannot be unchecked. To force the desktop user interface for these devices, check the "Force RGS to use the desktop user interface, even on tablets" option in the RGS Receiver Configuration application. See the User Guide for more information.

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#### **What's new in Release 7.3.1**

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HP RGS Release 7.3.1 is a release for Windows and Linux Senders and Receivers and the macOS Receiver.

#### **New features:**

- 1: Support for Windows 10 Anniversary Update (Version 1607)
- 2: Performance improvement for HP3 on Senders with Windows 8.1 and Windows 10 Anniversary Update and later with AMD or Intel graphics



3: Performance Improvement for AVC with Windows Receivers

4: Improved resolution matching when using NVIDIA graphics on Windows Senders (bare metal or virtualized environments). On by default for Windows 10 Anniversary Update and later. New functionality includes:

- Intelligent layout matching independent of display order.
- Automatic creation of "virtual displays" for resolution matching for Senders without displays attached or fewer displays on the Sender than the Receiver
- Support for custom resolutions in virtualized environments.

5: New property IceLive.livessl.liveUDP.mtu. When using a VPN, Set the MTU to a value lower than the MTU of the VPN for best performance with HP Velocity. See the User Guide for details.

**Defect Fixes:**

1: Fixed intermittent clipboard issues

2: Improved reliability of Linux sender restart after logout

3: Fixed problems with the mouse in RGS Game Mode

4: Better smart card remoting on ThinPro

5: Improved detection of USB ports for USB redirection on Windows

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**What's new in Release 7.3.0**

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HP RGS Release 7.3.0 is a release for macOS Receivers

New Features:

1: New Receiver client for macOS 10.10 (Yosemite) and later

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**What's new in Release 7.2.4**

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HP RGS Release 7.2.4 is a release for Windows and Linux Senders and Receivers.

The following list describes the changes.

**Defect Fixes:**

1: Fixed a crash or disconnect when using very large cursors.

A cross-hair will be displayed on the receiver when cursor size exceeds the transport limit.

- 2: Fixed a crash when using Linux senders with the Chrome browser.
- 3: Fixed an issue with the RGS preload license on HP EliteBook 8440w.
- 4: Smart Cards can now be remoted to a sender from a ThinPro v5 receiver.
- 5: An outline of a window that is being moved or resized is correctly displayed when "Reduced Resources" is enabled for Metacity on Linux senders.

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### **What's new in Release 7.2.3?**

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HP RGS Release 7.2.3 is a release for all supported products and platforms. The following list describes the changes.

#### **New Features:**

- 1: Sender properties were added to more easily configure VMware virtual machine displays for use with NVIDIA GRID Graphics.

#### **Defect Fixes:**

- 1: When logging into a Linux Sender connected to a domain, domain\user is now an accepted format.
- 2: If a Linux Sender is at the login screen and a user disconnects without logging in, it is now possible to reconnect to the RGS Sender.

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### **What's new in Release 7.2.2?**

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RGS Release 7.2.2 is a release for all supported products and platforms. The following list describes the changes.

#### **New Features:**

- 1: Improved smartcard functionality for Windows.
- 2: Added support for input devices with 5 buttons. Supported with Windows to Windows sessions. Both sender and receiver must be 7.2.2 or later.

#### **Defect Fixes:**

- 1: Fixed an issue where the receiver window, when in borderless mode, incorrectly snapped to the corner of the screen. The window will now snap to the monitor boundary and be pinned at that position.

- 2: Fixed an issue on Linux senders in which the keyboard layout was incorrect.
- 3: Removed a shared library path restriction on Linux senders to enable alternate X server driver packaging.
- 4: Fixed an issue on Linux senders where Pulse audio and Pam security connections could write many repeated messages to the log files.

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### **What's new in Release 7.2.1?**

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RGS Release 7.2.1 is a release for all supported products and platforms. The following list describes the changes.

#### **Defect Fixes:**

- 1: Update activation server addresses

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### **What's new in Release 7.2.0?**

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RGS Release 7.2.0 is a release for all supported products and platforms. The following list describes the changes.

#### **New Features:**

- 1: Support for RHEL 7.2
- 2: Support for SLED 12
- 3: Support for Windows 10
- 4: Beta release of improved smartcard functionality for Windows. To enable this functionality, select custom install during installation and enable the smartcard option.

#### **Defect Fixes:**

- 1: Fixed an RGS receiver crash when transitioning from RGS to RDP with Advanced Features requested but not activated.
- 2: Enabled animated cursors on Windows 8 systems when using the GPU display method.
- 3: Fixed Linux sender crash when logging off of the sender system while connected to a receiver.

- 4: Fixed a Linux receiver issue where excessive X server resources are consumed when the toolbar update statistics are visible.
- 5: Fixed a receiver issue that resulted in spurious session disconnections.
- 6: Fixed a rare sender crash during encoding with HP3 or JPEGLS.
- 7: Reduced the occurrence of receiver network connection warning screens.
- 8: Fixed black screen issue when running a multi-screen GPU Advanced Video Compression connection.
- 9: Directory mode now accepts directory.txt entries with spaces inside double quotes.
- 10: Fixed an issue with cursor position on windows senders with multiple displays that are configured with different levels of scaling.
- 11: Fixed a crash on exit with embedded receivers after accessing settings panel.

**Known Issues:**

- 1: Windows 10 senders using HP3 with NVIDIA graphics will operate with reduced performance or display a black screen pending a future NVIDIA driver release. Workaround for a black screen is to configure the Comparitron display method. See RGS Sender Configuration in the Documentation.
- 2: Windows 10 senders using AVC with NVIDIA graphics may display an offset cursor or a blank display if a screen is set to lower than its native resolution. A workaround is to disable GPU accelerated AVC rendering. See RGS Receiver Configuration in the Documentation.
- 3: Linux senders with NVIDIA graphics on RHEL 7.x and SLED 12 may display transient screen corruption with drivers lower than 352.41

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**What's new in Release 7.1.1?**

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RGS Release 7.1.1 is a release for the Windows sender. The following list describes the changes.

**Defect Fixes:**

1. Fixed loss of mouse cursor control when using scaled displays.
2. Fixed floor control issue when using software comparitron.

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## What's new in Release 7.1.0?

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RGS Release 7.1.0 is a release for all supported products and platforms. The following list describes the changes.

### New Features:

- 1: Improved performance with default HP3 codec, with higher framerate and/or higher screen resolution compared to 7.0. RGS HP3 can now use multiple CPU cores. The amount of system CPU resource consumed by RGS can be controlled via properties, see the user guide for details.
- 2: WACOM tablet remoting with full functionality for Linux to Linux sessions.
- 3: Improved audio experiences on Linux using the PulseAudio system for capture and playback. The sender can be configured to capture using Alsa. See the user guide for more details.
- 4: Advanced Video Compression (AVC) is now GPU accelerated on Linux sender systems with GRID capable nVidia graphics devices. AVC on Linux also supports multi-monitor.
- 5: AVC has been updated to the latest GRID SDK from nVidia on Windows and Linux platforms.
- 6: Support for RHEL 7.
- 7: New tools to configure properties via a UI, avoiding the need to directly edit the corresponding text based files (rgsenderconfig and rgreceiverconfig). See the user guide for more details.

### Defect Fixes:

- 1: Fixed an issue with the GPU display method on nVidia graphics devices with 10-bit displays that resulted in very high bandwidth consumption.
- 2: Fixed animated cursors (the busy cursor) on RHEL 6 senders.

### Notes:

- 1: The force full screen update option is enabled by default and has been removed from the UI. Its receiver property is "IsGlobalImageUpdatesEnabled". This property prevents screen tearing. With it on, the performance of low powered receiver systems with multiple (3 or more) displays may be adversely affected.

2: Support for 32-bit Linux operating systems other than HP ThinPro is no longer available.

3: Support for RHEL 5 is no longer available.

**Known Issues:**

1: Windows 8/8.1 senders without a mouse connected will not display a mouse cursor. This is a current limitation of Windows 8/8.1. A solution is under investigation.

2: The performance of AVC on displays using a resolution greater than full HD (1920x1080) varies depending on the content.

3: AVC does not currently support 4K or ultra HD (3840x2160) resolutions.

4: RHEL 7 senders with nVidia graphics will exhibit screen corruption unless the Option “NoFlip” is set to true in xorg.conf. A solution is under investigation.

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**What's new in Release 7.0.2?**  
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RGS Release 7.0.2 is a release for all supported products and platforms. The following list describes the changes.

**New Features:**

1: Add support for RHEL 6.6.

**Defect Fixes:**

1: Fixed an issue that resulted in the cursor disappearing for users in a collaboration session.

2: Fixed an issue that could result in the Windows desktop remaining unlocked after using Switch User.

3: Fixed an issue that could result in the Windows desktop remaining unlocked after an RGS session reconnect.

4: Fixed an issue that caused a login attempt to fail after a previous failed login attempt.

5: Fixed an issue that caused a login delay to result in a login failure and cause a subsequent login attempt to fail.

6: Fixed an issue that cause a login cancellation to display a login failure message and cause a subsequent login attempt to fail.

7: Fixed a key mapping problem with the Brazilian ABNT2 keyboard layout.

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### **What's new in Release 7.0.1?**

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RGS Release 7.0.1 is a release for all supported products and platforms. The following list describes the changes.

#### **New features:**

- 1: Added a sender property, `Rgsender.PreferredLicenseOrder`, that allows ordering and selection of RGS license types, see `rgsenderconfig` for details.
- 2: Easy Login functionality is no longer limited to certain hardware platforms. The property `Rgsender.IsAnonymousConnectionForceEnabled` has been removed. See the user guide for details on Easy Login.

#### **Defect fixes:**

- 1: Fixed HP Velocity connection instability with some Receiver platforms.
- 2: Removed mirror driver from sender install on Windows 8 and later because Microsoft does not support mirror drivers starting with Windows 8. The “changelist” capture method is not available on Windows 8 as a result.
- 3: Fixed an issue with Logitech Wireless keyboards on ThinPro.
- 4: Fixed an issue that resulted in the collaboration notification dialog appearing behind other windows.

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### **What's new in Release 7.0.0?**

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RGS Release 7.0.0 comes with a new list of supported platforms. Please consult the support matrix to ensure that your platform is supported.

The following list describes high-level changes.

## **New Features:**

- 1: Upgraded HP Velocity to version 2.1. This version offers further improved connectivity and protection compared to previous versions. Traffic protected by HP Velocity now uses UDP, rather than TCP. The new version of HP Velocity is not compatible with older versions of HP Velocity. Only connections between HP RGS 7 senders and receivers will benefit from HP Velocity 2.1.
- 2: A host of new tablet features has been introduced:
  - a. Gesture-to-hotkey mapping. Users can assign a series of keystrokes to a gesture via the new gestures tab in the UI.
  - b. Virtual Mouse. The virtual mouse allows for precise onscreen mouse control on a tablet.
  - c. Zoom & Pan. Tablet users are able to zoom and pan around the sender desktop.
- 3: Various improvements to the user interface for touch optimization and improved toolbar control.

## **Defect Fixes:**

- 1: Remote USB installation on 64-bit Windows Embedded has been fixed.
- 2: Virtual audio driver is installed on blade systems more consistently.
- 3: Connections no longer end immediately when a Windows Remote Desktop Service session is created by another application. This should improve the way RGS interacts with other remote desktop applications.

## **Known Issues:**

- 1: When an RGS sessions ends, it is possible that the sender monitor will remain blanked. The problem can be resolved by connecting again with RGS and then disconnecting normally.
- 2: When using nVidia graphics with 10-bit monitors, older drivers can cause the image to have color problems. This issue can be resolved by setting a property. Some recent nVidia drivers solve this problem.
- 3: On Windows touch devices, increasing the sender display resolution while connected can cause problems with tapping the confirm resolution dialog box. Use a USB mouse or the virtual mouse to click the button.