HP ZCentral Remote Boost

Release notes

This document comprises the release notes for HP ZCentral Remote Boost.

What's new in Release 20.2

HP Remote Boost 20.2 Sender supports Windows and Linux®. HP Remote Boost 20.2 Receiver supports Windows, Linux®, and macOS™.

Experience improvements:

1. Minor UI updates to enhance usability

2. UI DPI scaling now supports fractional scaling e.g.150%

3. Added support for Game Mode on Linux senders, which enables the use of Unreal Engine when connecting from a Windows receiver to a Linux sender

4. Advanced Video Compression (AVC) is now available as a preview on macOS

5. Minor performance improvements

Operating System Notes:

1. Remote Boost 20.2 does not support Windows 7, Windows 8, or RHEL 6.

Compatibility Notes:

1. For floating license installations, please install the latest license server release (11.17.2.0) as Remote Boost 20.2 Sender is not compatible with previous license server releases.

2. Removed support for deprecated plugin interfaces

3. By default, the Remote Boost 20.2 Sender will use the most secure options. This means that connections to RGS 7.4 and earlier clients will not succeed unless the Remote Boost 20.2 Sender EnableLegacySecurity property or installer option is configured. This option is available to facilitate transition to current security practices and will be removed in a future release. See the Remote Boost User Guide for details.

Security Improvements:

1. LINUX USERS: Linux packages have been updated with integrity signatures. For information on how to verify the integrity of RHEL or Ubuntu install packages visit the HP ZCentral Remote Boost Linux Package Verification page.

Deprecated properties:

1. The following preferred resolution properties have been removed:

   - Rgreceiver.Session.<n>.VirtualDisplay.IsPreferredResolutionEnabled
   - Rgreceiver.Session.<n>.VirtualDisplay.PreferredResolutionHeight
   - Rgreceiver.Session.<n>.VirtualDisplay.PreferredResolutionWidth

2. The Rgreceiver.IsMatchReceiverPhysicalDisplaysEnabled property has been removed.

3. We are improving the backend of our video pipeline. Due to this work, the following properties have been deprecated and will be removed or replaced in an upcoming release:

   - These properties will be removed in an upcoming release:
     - Rgsender.MediaStream.NvidiaEncode.PreferredCapturer
     - Rgsender.Encoder.Mfx.MaxPixels

- Rgsender.Encoder.Mfx.MaxBitrate
- Rgsender.Encoder.Mfx.MinBitrate
- Rgsender.Encoder.Umc.MaxBitrate
- Rgsender.Encoder.Umc.MinBitrate
- Rgsender.Encoder.Umc.GopSize
- Rgsender.Encoder.DefaultBitrate
- Rgsender.Encoder.DefaultFramerate
- Rgsender.Nvidia.MinDriver.NvFBC
- Rgsender.IsNizzaMonitorEnabled
- Rgsender.PreferredDisplayMethods
- Rgsender.Capturer.Nvidia.ByteSwap
- Rgsender.Compatibility.Cursor.PreferredCursorMethod
- Rgreceiver.IsGlobalImageUpdateMutable
- Rgreceiver.IsGlobalImageUpdateEnabled
- Rgreceiver.Decoder.ThreadPoolSize
- Rgreceiver.IsNizzaMonitorEnabled
- Rgreceiver.ImageCodec.Decode.UseMFX
  - These properties will be replaced in an upcoming release:
    - Rgsender.Encoder.ThreadPoolSize
    - Rgreceiver.ImageCodec.DecodePipeline.Threads

Defect fixes:

1. Addressed an issue where the receiver window does not scale properly when switching between full screen, borderless, and bordered mode

2. Addressed an issue where certificate chains larger than three are denied by default

3. Addressed an issue where input is offset from the position of the cursor when using a Wacom pen on some apps

4. Addressed an issue where Shift + Numpad hotkeys do not function the same as locally

5. Addressed an issue where frequent disconnects occur on macOS, due to a power saving feature that closes apps not in use

6. Addressed an issue where trackpad scrolling is overly sensitive when connecting to a Linux Sender

7. Addressed an issue on macOS receivers where the eraser on a Wacom pen occasionally shows up as a pen-tip

8. Addressed an issue where tablet events are not correctly injected on the Sender in a connection with mixed DPI environments

9. Addressed an issue where the 'minimize' button does not work in Borderless & Fullscreen mode on ThinPro

10. Addressed an issue where a Linux sender is unresponsive after disconnect or logout

Known issues:

1. A Remote Boost 20.2 Sender may not start on RHEL 8.4. Full support for RHEL 8.4 will be added in an upcoming release.

2. On a ThinPro receiver, the number of senders that are saved and displayed on the receiver GUI might not match the value set in the rgreceiverconfig file. To avoid this issue, set Rgreceiver.MaxSenderListSize.IsMutable = 0 in the rgreceiverconfig file.

3. When connecting to a virtual machine on a VMware ESXi host, the screen may remain black until a subsequent connection or by enabling AVC.

What's new in Release 20.1.2

HP Remote Boost 20.1.2 Sender supports Windows and Linux®. HP Remote Boost 20.1.2 Receiver supports Windows, Linux®, and macOS™.

Experience improvements:

1. Minor UI updates to enhance usability

Compatibility Notes:

1. By default, the Remote Boost 20.1.2 Sender will use the most secure options. This means that connections to RGS 7.4 and earlier clients will not succeed unless the Remote Boost 20.1.2 Sender EnableLegacySecurity property or installer option is configured. This option is available to facilitate transition to current security practices and will be removed in a future release. See the User Guide for details.

2. The COM and ICE plugin application facility interfaces are now deprecated and will be removed in the next release.

Deprecated properties:

1. The property EnableAnonymousCiphers is a deprecated name for a property that is now called EnableLegacySecurity. See the User Guide for details.

Defect fixes:

1. Addressed an issue where the Delete key is blocked after pressing and releasing CTRL then ALT

2. Addressed an issue where the pen does work on the first sender in directory mode

3. Addressed an issue where the ReceiverConfigApp does not prompt for Admin credentials

4. Addressed an issue where the Collaboration Notification button in the SenderConfigApp appears in the wrong state

5. Updated license server installers to address a FlexLM security vulnerability

6. Addressed an issue on Mac with ISO keyboards where the Tilde key generates an incorrect character

7. Addressed an issue with webcams on ThinPro receivers

8. Addressed an issue where Remote Boost does not successfully start from Leostream on older versions of Windows 10

Known issues:

1. When connecting to a virtual machine on a VMware ESXi host, the screen may remain black until a subsequent connection or by enabling AVC.

What's new in Release 20.1.1

HP Remote Boost 20.1.1 Receiver supports macOS™.

Operating System notes:

1. Remote Boost 20.1.1 addresses an issue specific to Apple certificates and is only available on macOS

Defect fixes:

1. Fixed an issue where after January 5, 2021, users would no longer be able to install the MacOS version of the HP Remote Boost Receiver.

What's new in Release 20.1

HP Remote Boost 20.1 Sender supports Windows and Linux®. HP Remote Boost 20.1 Receiver supports Windows, Linux®, and macOS™.

Experience improvements:

1. Technology preview for enhanced Wacom support. Wacom support is added for Windows, macOS, RHEL, and Ubuntu receivers connecting to Windows and Linux Senders. See "Wacom Support Information" below for more details.

2. Administrators have greater control over which users can access Senders through the userfilter.txt file.

3. Added support for hardware accelerated Advanced Video Compression encode on Linux senders with GeForce and additional Quadro cards.

Compatibility Notes:

1. By default, the Remote Boost 20.1 Sender will use the most secure options. This means that connections to RGS 7.4 and earlier clients will not succeed unless the Remote Boost 20.1 Sender EnableLegacySecurity property or installer option is configured. This option is available to facilitate transition to current security practices and will be removed in a future release. See the User Guide for details.

2. The COM and ICE plugin application facility is now deprecated and will be removed in the next release.

Deprecated properties:

1. The property EnableAnonymousCiphers is a deprecated name for a property that is now called EnableLegacySecurity. See the User Guide for details.

Defect fixes:

1. Addressed several issues during a hardware accelerated Advanced Video Compression connection to a Linux machine with a Nvidia GPU

2. Addressed an issue where the wrong keys were being transmitted on macOS keyboards

3. Addressed an issue with Num Lock and Cap Lock on Linux Senders not matching the receiver

4. Addressed an issue that occasionally prevented the Receiver from starting on macOS Catalina

5. Addressed an issue where display resolution and layout matching failed on VMware vGPU senders with rotated monitors

6. Addressed an issue where Caps Lock is inverted on initial connection

Known issues:

1. When connecting to a virtual machine on a VMware ESXi host, the screen may remain black until a subsequent connection or by enabling AVC

Wacom Support Information

1. The HP Remote Boost Receiver (Windows, macOS, RHEL, and Ubuntu) now supports Wacom pen displays and pen tablets when used with a Remote Boost Sender.

2. Adjustments to Wacom display mapping, Express Key buttons, and pen buttons are performed on the Receiver system. The Wacom Tablet Properties application on Windows, the Wacom Tablet controls under System Preferences on macOS, or Wacom Tablet controls under the Devices section of Settings on Linux can be used on the Receiver to adjust settings and verify the pen is working properly.

3. Windows and Mac Receiver Solution

   a. Wacom drivers must be installed on the Receiver system.

   b. Consider disabling the Remote USB feature on a Windows Remote Boost Receiver. If the Wacom USB connection is made after the Remote Boost connection is established, the Wacom device will be captured and exported to the Sender.

   c. Wacom Tablet controls allow the user to specify application specific behavior on the Receiver. Since Wacom controls on the Sender are not available, this feature is not supported for Sender applications. Changing Wacom tablet controls on the Receiver will apply to all Sender applications.

   d. Some Wacom devices are touch enabled. This may cause the Receiver to use the touch interface or it may cause interference with pen events. Consider disabling touch on the Wacom device.

4. Linux Receiver Solution

a. When installing the Remote Boost Receiver, do NOT use the "-legacyWacom" installer flag or answer yes when prompted to enable Legacy Wacom support. This will enable the older Linux Wacom solution, which will only work from Linux Receivers to Linux Senders.

5. Windows Sender Solution

   a. Wacom drivers are not required on the Sender system.

   b. If Wacom Tablet controls are available on the Sender, it will not show the device as being connected. Any adjustments to the Wacom device need to be done on the Receiver system.

   c. Applications on the Sender need to be configured to use Windows Ink. Some applications can only use the Wacom Wintab API rather than Windows Ink. These applications will not work with this solution. Most pen enabled applications will use Windows Ink by default or can be configured to use Windows Ink. Many Windows applications will have improved support for Windows Ink in the most recent versions of the application.

   d. When using the pen for input on the Sender, the cursor will often be displayed as a small dot. This is expected behavior.

   e. Windows has a setting to cause the pen cursor to be hidden. Use Pen & Windows Ink controls in Windows Settings to specify desired behavior.

6. Linux Sender Solution

   a. Wacom Tablet controls on the Sender will not show the device as being connected. Any adjustments to the Wacom device need to be done on the Receiver system.

   b. Some GTK-based applications will require manual configuration to enable the virtual Wacom device. It will appear on configuration menus as "Remote Boost Wacom Tablet".

What's new in Release 20.0.1

HP Remote Boost 20.0.1 Sender supports Windows and Linux®. HP Remote Boost 20.0.1 Receiver supports Windows, Linux®, and macOS™.

Operating System Notes:

1. RHEL 8.2 and Ubuntu 20.04 are supported with Xorg sessions. Wayland is not supported and is disabled by Remote Boost installers.

Compatibility Notes:

1. By default, the Remote Boost 20.0.1 Sender will use the most secure options. This means that connections to RGS 7.4 and earlier clients will not succeed unless the Remote Boost 20.0.1 Sender EnableLegacySecurity property or installer option is configured. See the User Guide for details.

Experience improvements:

1. Auto-launch files are now supported on Linux and macOS. See user guide for details.

2. Implemented borderless mode on the macOS Receiver. Borderless mode is a frameless window mode that can span multiple monitors (unlike the full screen mode). This is the default mode when match resolution is enabled and the Receiver has more than one monitor. Note that to allow a window to span more than one monitor in macOS you need to disable the "Displays have separate Spaces" setting in the Mission Control preference panel.

Deprecated properties:

1. The Rgreceiver.IsBordersEnabled property has been deprecated. If you used it in your configuration file you can use the new Rgreceiver.WindowMode property instead.

Defect fixes:

1. Addressed an issue where the Receiver closes with non-ascii username

2. Addressed an issue on Windows Senders where the mouse would jump

3. Addressed an issue where audio would not play on Ubuntu 20.04 Sender

4. The Vmouse driver can now be installed silently

5. Allow ALSA audio capture at 48K samples/sec. See /opt/hpremote/rgsender/audio/README.txt for details

6. Addressed an issue where very low-level audio can drop out

7. Addressed an issue where the Sender screen(s) didn't blank with Windows 10 20H1

8. Addressed an issue that prevented hardware-accelerated decode on GeForce cards on Windows

9. Addressed an issue where the port name (if specified) would not be persisted in the launcher UI sender dropdown dialog

10. Addressed an issue where Linux senders can hang on logout

11. Notarized the MacOS Receiver application

12. Addressed an issue where the cursor can persistently jitter with Linux senders

13. Addressed an issue where Hotkey N was not minimizing the Receiver window in Borderless mode.

Known issues:

1. AVC acceleration is not supported on RHEL 8.x or Ubuntu 18.04

2. DPI aware scaling only works for integral scaling values (e.g. 200%, 300%, etc.). Non integral scaling values (e.g. 150%) will scale to the nearest integral value.

3. DPI aware scaling on Linux is tied to the screen resolution and not the scale factor set in the desktop manager. For example, a 1920x1200 resolution 24" display will be treated as 100% scaling, and a 3820x2160 resolution 27" display will be treated as 200% scaling.

4. On Windows receivers with multiple monitors using different scale factors, there is the possibility of visual artifacts when moving the receiver window between monitors.

What's new in Release 20.0

HP Remote Boost 20.0 Sender supports Windows and Linux®. HP Remote Boost 20.0 Receiver supports Windows, Linux®, and macOS™.

Operating System Notes:

1. RHEL 8.1 and Ubuntu 18.04 are supported with Xorg sessions. Wayland is not supported and is disabled by Remote Boost installers.

2. Support is no longer provided for SUSE.

Compatibility Notes:

1. By default, the Remote Boost 20.0 Sender will use the most secure options. This means that connections to RGS 7.4 and earlier clients will not succeed unless the Remote Boost 20.0 Sender EnableLegacySecurity property or installer option is configured. See the User Guide for details.

2. HP Remote Graphics Software has been rebranded to HP ZCentral Remote Boost. The branding changes do not impact compatibility with previous versions or change installed file names and directory paths.

Experience improvements:

1. Remote Boost User Interface adjusts to high DPI displays

2. When the Receiver window is resized and scaled pixel mode is selected on the toolbar, the contents of the sender desktop will be automatically scaled to fit the Receiver window. This does not affect the resolution on the sender.

3. Improved performance for WACOM Cintiq and Wacom Intuos remoting for Linux® to Linux® sessions.

Deprecated properties:

1. The Rgreceiver.IsBordersEnabled property has been deprecated. If you used it in your configuration file you can use the new Rgreceiver.WindowMode property instead.

Defect fixes:

1. Addressed an issue where sender displays did not return to their initial state after disconnecting on Linux

2. Addressed issues where resolution and layout display matching did not always work

3. Addressed issues when the connection to the sender was lost or keyboard quit working when RDP was used in conjunction with Remote Boost

Known issues:

1. AVC acceleration is not supported on RHEL 8.x or Ubuntu 18.04

2. DPI aware scaling only works for integral scaling values (e.g. 200%, 300%, etc.). Non integral scaling values (e.g. 150%) will scale to the nearest integral value.

3. DPI aware scaling on Linux is tied to the screen resolution and not the scale factor set in the desktop manager. For example, a 1920x1200 resolution 24" display will be treated as 100% scaling, and a 3820x2160 resolution 27" display will be treated as 200% scaling.

4. On Windows receivers with multiple monitors using different scale factors, there is the possibility of visual artifacts when moving the receiver window between monitors.

5. When using VMware ESXi with Windows 7-based virtual machines with NVIDIA graphics, if the cursor is not displayed, set the following property in the rgsenderconfig file:
Rgsender.Compatibility.Cursor.PreferredCursorMethod=generic

What's new in Release 7.7

HP RGS 7.7 Sender supports Windows and Linux®. HP RGS 7.7 Receiver supports Windows, Linux®, and macOS™.

Operating System Notes:

1. RHEL 7.7 is supported

2. ThinPro 7.1 is supported

Performance and bandwidth improvements:

1. HP Velocity is supported on the macOS Receive

Experience improvements:

1. HP RGS was modified to update frames more regularly on the Receiver to reduce "stutter," especially for video playback.

2. New properties have been added to explicitly set the display resolution and layout of sender displays. See the RGS User Guide for information about the properties: Rgsender.Display.*. In the Receiver settings UI, "Match Receiver display resolution" and "Match Receiver display layout" have been collapsed into one option, "Match Receiver display resolution and layout."

Defect fixes:

1. Addressed an intermittent issue where external networking software would cause the Receiver to be disconnected from the Sender

2. Addressed an issue where oddly sized monochrome cursors were not displayed correctly

3. Addressed an issue on ThinPro Receiver where a borderless window could not be moved in setup mode

4. Addressed an issue where Setup Mode was staying grayed out when using Hotkey N

What's new in Release 7.6.1

HP RGS 7.6.1 Sender supports Windows and Linux®. HP RGS 7.6.1 Receiver supports Windows, Linux®, and macOS™.

Defect fixes:

1. Addressed issues with keyboard mapping including the <Alt><Gr> key sequence on a macOS™ keyboard: ' and ~

2. Addressed an issue on macOS™ where the keyboard input is incorrect after taking a screenshot using <command><shift><4>

3. Addressed a Sender crash when adding or removing borders with AVC enabled

What's new in Release 7.6

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 display. When enabled, 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 Caps Lock 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 home folder does not exist

9. Addressed an issue where 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-runtimel1-1-0.dll is missing from your computer." Windows Update must be used to install the Microsoft Security Monthly Quality Rollup before installing HP RGS.

What's new in Release 7.5.1

HP RGS 7.5.1 Sender supports Windows and Linux®. HP RGS 7.5.1 Receiver supports Windows, Linux®, and macOS™.

Certificates:

1. HP RGS attempts to verify the identity of the sender using a public-key infrastructure (PKI) certificate before a connection is made. By default, 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 certificate that they can compare with the Fingerprint displayed in the verification message. See the User Guide for detailed information.

Defect fixes:

1. Fixed an intermittent layout matching issue on Linux® / ThinPro receivers.

Future release planning:

1. Starting with RGS 7.6 only the 64-bit Windows Sender and Receiver will be released, and the 32-bit versions will be discontinued.

What's new in Release 7.5

HP RGS 7.5 Sender supports Windows and Linux®. HP RGS 7.5 Receiver supports Windows, Linux®, and macOS™.

New features:

1. Operating System Notes: Linux®.

2. RHEL 7.5 is supported

3. Performance and bandwidth improvements.

4. Bandwidth required for HP3 on Windows 10 is reduced

5. HP3 performance increase on Windows and Linux® Sender

6. Experience controls Adaptive Image Quality is more responsive

Experience improvements:

1. As of Release 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 HP RGS 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 HP RGS Receiver would intermittently hang on logout on RHEL 7.4.

7. Fixed a clipboard issue on Linux® Senders when selecting and copying or moving multiple cells in Excel.

8. Fixed an issue related to starting HP RGS from the command line. The HP RGS GUI now correctly displays the hostname/IP address specified on the command line instead of the hostname/IP address from the previously connection.

Known issues:

1. On Windows 10, the Sender diagnostics tab reports that "Changelist display model" is not working. 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, and the 32-bit versions will be discontinued.

What's new in Release 7.4

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

New features:

1. Floating License Server: The FLEXnet license server for floating licenses must be version

2. 11.14 or later to support RGS 7.4. Local licenses are not affected. The FLEXnet license server is included with the HP RGS package. See the Licensing Guide at hp.com/go/RGS for more information.

3. Operating System Notes: Windows.

4. Windows 10 Fall Creators Update is now supported

5. 64-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

6. 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.

7. The 64-bit version of RGS is installed in C:\Program Files\HP by default RGS 7.4 supports Windows 10 Creators Update (Version 1703)

8. If the Windows 10 version is updated after installing HP RGS, Remote USB may stop working. Uninstall and then reinstall HP RGS

Operating System Notes: Linux®.

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:

1. Receiver for RHEL 6.x

2. Receiver for RHEL 7.x and SUSE 12

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

1. Sender for RHEL 6.x

2. Sender for RHEL 7.x and SUSE 12

3. Sender for SLED 11

4. RHEL 7.4 and SLED 12 SP3 are now supported

5. Restarting the Linux® Sender no longer requires a restart of the X Server

6. A Receiver is no longer provided for SUSE Linux® Enterprise Desktop 11

Defect fixes:

1. Fixed an issue where Resolution matching was not working with vGPU with NVIDIA® graphics on Windows.

2. Fixed a Linux® Receiver crash when using Advanced Video Compression.

3. Linux® Receiver to Linux® Sender no longer generates erroneous noise during the initial connection when using audio.

4. Toolbar functions are now available on touch devices when the virtual mouse is activated.

5. Fixed an issue where the cursor was incorrect or missing on the macOS™ Receiver.

6. The audio volume can now be adjusted on the sender system for RGS connections.

7. Fixed an issue where Match Receiver display resolutions was not working on headless Linux® sender systems.

8. 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 Ret Hat Bugzilla bug 1469755.

3. On Linux® Receiver, the SETUP MODE sequence + H that is used to hide or unhide the toolbar does not always work as expected. This behavior is planned to be fixed in an upcoming release.

What's new in Release 7.3.3

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 pass-through.

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.

What's new in Release 7.3.2

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 cards support is not backwards compatible. To use the new solution, both sender and receiver need to be RGS 7.3.2 or later. Smart card redirection is supported on the following senders: Windows 7, 8.1, and10 and now RHEL 6, RHEL 7, and SUSE Linux® Enterprise 12. (Linux® support is new in 7.3.2.) Smart card redirection is supported on Windows receivers only. On Windows-based and ThinPro-based receivers, smart cards can be remoted using Remote USB.

4. MaxImageUpdateRate now applies to AVC. In previous releases this setting only applied to HP3 (the default image codec).

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 issue when connecting to a HP ZBook laptop 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:

2. Add "-c /etc/reader.conf.d/hpremotescr. conf" to the pcscd startup script located at usr/lib/systemd/system/pcscd.service. The

3. ExecStart option in this file should be modified to appear as follows: ExecStart=/usr/sbin/ pcscd --foreground --auto-exit -c /etc/reader. conf.d/hpremotescr.conf.

4. On laptops with touch displays, RGS defaults to the touch interface. One of the symptoms 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.

What's new in Release 7.3.1

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 (now AVC mode supports 4k like the default HP3 mode).

4. Improved resolution matching when using NVIDIA® graphics on Windows Senders (bare metal or virtualized environments).

5. On by default for Windows 10 Anniversary Update and later. New functionality includes:

6. Intelligent layout matching independent of display order.

7. Automatic creation of "virtual displays" for resolution matching for Senders without displays attached or fewer displays on the Sender than the Receiver.

8. Support for custom resolutions in virtualized environments.

9. 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.

What's new in Release 7.2.4

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 crosshair 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 Linux® senders.

What's new in Release 7.2.3

HP RGS Release 7.2.3 is a release for all supported products and platforms.

The following list describes the changes.

1. New features:

2. Sender properties were added to more easily configure VMware virtual machine displays for use with NVIDIA® GRID Graphics.

3. Defect fixes:

4. When logging into a Linux® Sender connected to a domain, domain\user is now an accepted format.

5. 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.

What's new in Release 7.2.2

HP RGS Release 7.2.2 is a release for all supported products and platforms.

The following list describes the changes.

New features:

1. Improved smart card functionality for Windows to enable a smart card to be used to authenticate on a receiver and sender simultaneously.

2. Added support for input devices with 5 buttons. Supported for Windows receivers and Windows senders; HP RGS 7.2.2 (or later) must be installed on both the sender and receiver.

Defect fixes:

1. Fixed an issue so that borderless receiver windows correctly snap to the monitor boundary.

2. Fixed an issue on Linux® senders in which certain keys in some languages were not echoed correctly on the receiver.

3. Removed a shared library path restriction 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.

What's new in Release 7.2.0

HP 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 smart card functionality for Windows. To enable this functionality, select custom install during installation and enable the smart card option.

Defect fixes:

1. Fixed an HP RGS receiver crash when transitioning from HP 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 tool bar 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 HP 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.

3. A workaround is to disable GPU accelerated AVC rendering. See HP RGS Receiver Configuration in the Documentation.

4. Linux® senders with NVIDIA® graphics on RHEL

5. 7.x and SLED 12 may display transient screen corruption with drivers lower than 352.41

What's new in Release 7.1.1

HP 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.

What's new in Release 7.1.0

HP 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. HP RGS HP3 can now use multiple CPU cores. The amount of system CPU resource consumed by HP 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 (rgsendeconfig 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

2. "Is Global Image Updates Enabled".

3. 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.

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

5. 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. 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.

5. A solution is under investigation.

What's new in Release 7.0.2

HP 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 HP 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.

What's new in Release 7.0.1

HP 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 HP RGS license types, see rgsenderconfig for details.

2. Easy Login functionality is no longer limited to certain hardware platforms. The property Rgsender.

3. 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.

3. The "changelist" capture method is not available on Windows 8 as a result.

4. Fixed an issue with Logitech Wireless keyboards on ThinPro.

5. Fixed an issue that resulted in the collaboration notification dialog appearing behind other Windows.

What's new in Release 7.0.0

HP RGS Release 7.0.0 comes with a new list of supported platforms. Please consult the support matrix to ensure that your platforms supported. The following list describes high level changes.

New features:

1. Upgraded HP Velocity to version 2. 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.

A host of new tablet features has been introduced:

2. Gesture-to-hotkey mapping. Users can assign a series of keystrokes to a gesture via the new gestures tab in the UI.

3. Virtual Mouse. The virtual mouse allows for precise onscreen mouse control on a tablet.

4. Zoom & Pan. Tablet users can zoom and pan around the Sender desktop.

5. 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 HP RGS interacts with other remote desktop applications.

Known issues:

1. When an HP RGS session ends, it is possible that the Sender monitor will remain blanked. The problem can be resolved by connecting again with HP 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.

What's new in Release 6.0.8

HP RGS Release 6.0.8 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 HP 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.

What's new in Release 6.0.7

HP RGS Release 6.0.7 is a release for all supported products and platforms.

The following describes the defect fix.

Defect fixes:

1. Fixed an issue when transitioning from RDP to HP RGS. The HP RGS connection would fail if the user did not have administrator privilege.

What's new in Release 6.0.6

HP RGS Release 6.0.6 is a release for all supported products and platforms.

The following list describes the defect fixes.

Defect fixes:

1. Fixed an issue that resulted in the sender becoming non-responsive after transitioning between HP RGS and RDP.
2. Fixed an issue that prevented the change list capture method from functioning on Windows XP.
3. Fixed issues related to resolution changes that cause the sender to become
4. non-responsive on Linux®.
5. Added account and session management to the HP RGS PAM module.
6. Fixed a crash in the HP RGS Receiver when running under Leostream control.
7. Allows HP RGS virtual audio driver to install on more platforms.

What's new in Release 6.0.5

HP RGS Release 6.0.5 is a release for all supported products and platforms.

The following list describes the changes.

New features:

1. Add support for ThinPro 4.4.

2. The use of the installer command line has changed. See the user guide for details.

Defect fixes:

1. Fixed an issue that resulted in the Receiver displaying UI elements when it should not when used via the COM API.

2. Fixed issues where keys on the Bloomberg STB100 keyboard were being mishandled.

3. Fixed an issue that prevented resizing of the Receiver display window.

4. Fixed a repaint issue that could occur when maximizing the Receiver display window.

What's new in Release 6.0.4

HP RGS Release 6.0.4 is a release for all supported products and platforms.

The following list describes the changes.

New features:

1. Added support for HP ZBook to the Sender preload license.

2. Added a Sender property that allows collaboration without displaying a collaboration authorization dialog (see rgsenderconfig).

Defect fixes:

1. Fixed a crash in the HP RGS X Server extension module.

2. Fixed an issue that may prevent remote USB from functioning when USB 3.0 is present.

What's new in Release 6.0.3

HP RGS Release 6.0.3 is a release for all supported products and platforms.

The following list describes the changes.

New features:

1. Added support for HP Z230 to the Sender preload license.

Defect fixes:

2. Fixed performance, quality and latency problems related to Advanced Video Compression.

3. Fixed a security issue related to screen blanking.

4. Fixed an issue that caused loss of window focus when using a mouse scroll wheel.

5. Fixed an issue that could result in a bluescreen on ElitePad 900.

6. Fixed an issue that prevented the use of the Is Menu bar Enabled property on the Receiver.

What's new in Release 6.0.2

HP RGS Release 6.0.2 is a release for all supported products and platforms.

The following list describes the changes.

New features:

1. Added support for Advanced Video Compression in directory mode.
2. Added support for RHEL 6.4.
3. Enabled support for ThinPro 3.3, 4.1, 4.2 and 4.3.

Defect fixes:

1. Fixed an issue with the Shift + Space + M key sequence not raising the Control Panel.
2. Fixed a black screen issue on Linux®.
3. Fixed an issue where the Sender GUI process would not start on Linux®.
4. Fixed an issue with the Bloomberg Keyboard.

What's new in Release 6.0.1

HP RGS Release 6.0.1 is a release for all supported products and platforms.

The following list describes the changes.

Defect fixes:

1. Resolved an issue with the Preload license that caused the Sender to fail license checkout.
2. Resolved an issue with activation of Advanced Video Compression.

What's new in Release 6.0.0

HP RGS Release 6.0.0 is a release for all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. HP RGS has a new UI look and feel. All UI components associated with HP RGS have been enhanced to improve aesthetics and usability.
2. The HP RGS Sender and Receiver can be configured to encode screen updates with an H.264 codec. H.264 consumes less bandwidth when compared with legacy codecs in many situations. H.264 settings are available in the Performance tab of the Settings panel under "Advanced Video Compression".
3. The HP RGS Sender and Receiver provide an install-time option to enable WAN optimization. This optimization provides improved network performance when packet loss and latency are present in the environment.
4. Added support for Microsoft Windows 8 (desktop mode) for both Sender and Receiver.

Defect fixes:

1. Resolved a performance problem that can result if an application programmatically controls the cursor position on the Sender.

What's new in Release 5.4.8

HP RGS Release 5.4.8 is a release for all supported products and platforms. The following list describes the new features and defect fixes.

New features:

1. Linux® Screen blanking.

2. Support for SLED11 Sender.

3. Support for RHEL6.2 Sender.

4. IP address filtering.

5. Linux® Audio enhancements.

6. ThinPro 4.1 Kernel module.

7. Linux® "easylogin" equivalent.

Defect fixes:

1. Resolved issue with multiple connection attempts required after RDP Disconnect on XP with DP Gina module.

2. Resolved issue when 4 display used in L shape with Receiver resolution and Receiver layout matched, the Receiver screen did not place itself properly.

3. Resolved issue when HP RGS remote clipboard feature cannot work, when CATIA started.

4. Resolved issue when CATIA Software exception when connecting through RDP-Clients affected–CATIA SW (Install only).

5. Resolved issue with advance cursors disappearing on some applications.

6. Resolved issue when Sender hangs after unexpected disconnect.

What's new in Release 5.4.7

HP RGS Release 5.4.7 is a release for all supported products and platforms.

The following list describes the defect fixes.

Defect fixes:

1. Resolves a Sender deadlock when logging out of the Windows desktop.

2. Resolves a Sender crash when using a USB remote Bloomberg keyboard as an audio playback device.

3. Resolves a multimonitor left edge snap problem.

4. Resolves Linux® USB remote Bloomberg keyboard hang issue.

5. Resolves Japanese font bug for PAM message dialog.

What's new in Release 5.4.6

HP RGS Release 5.4.6 is a release for all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The HP RGS Sender on Windows Vista and Windows 7 now supports Single Sign-On and Easy Login.

2. The Windows Sender installer enforces prerequisites when enabling Single Sign-On or Easy Login on Windows XP. These are: enable Ctrl-Alt-Del, disable Fast User Switching, and disable Auto Logon.

Defect fixes:

1. Resolves a Sender crash on Red Hat Enterprise Linux® version 6.

2. Resolves a rare Linux® Sender crash during authentication.

3. Resolves a Windows Receiver problem where cursors could be displayed with incorrect colors when the Sender is Linux® or HP-UX.

4. Resolves an occasional Windows Sender deadlock when stealing a desktop session with match layout enabled.

5. Linux® Receiver remote USB support updated for future ThinPro releases.

What's new in Release 5.4.5

HP RGS Release 5.4.5 is a release for all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The HP RGS Sender and Receiver are supported on Red Hat Enterprise Linux® version 6.

2. The Receiver has new "Experience" controls in the General tab of the Advanced menu. The pre 5.4.5 behavior is Fixed image quality. Beginning with 5.4.5, the Adjust image quality mode will dynamically manage the quality to attempt to maintain the specified minimum update rate. The Sender and Receiver must both be 5.4.5 to enable Adjust image quality mode.

3. The Linux® Sender is supported on VMware ESX virtual machines.

4. Linux® cursor position snap operations are now detected and reflected on the HP RGS Receiver. This behavior is controlled by the property RgReceiver.IsMouseSyncEnabled. The distribution media includes a Blade Workstation virtual audio driver in source form for Red Hat Enterprise Linux® version 4 and 5.

5. The Receiver toolbar can be configured to display automatically when the cursor is near the top edge of the Remote Display Window.

6. The feature is controlled by the Auto show toolbar checkbox in the General tab of the Advanced menu.

7. Added support for Vista and Windows 7 Sender systems where the main display is not placed on the first display.

8. Added color cursor support to the Linux® Sender.

9. Allow the use of X server backing store with the Linux® Sender.

Defect fixes:

1. Resolves a problem with the Sender on Windows 7 where the Windows key + 'L' would not lock the screen.

2. Resolves a problem with the Receiver on Windows where incorrect keys were

3. generated on a Japanese keyboard when entering numbers.

What's new in Release 5.4.2

HP RGS Release 5.4.2 is a release of the Windows Sender and Receiver.

Defect fixes:

1. Resolves a Sender problem on Vista or Windows 7 with some color cursors having an incorrect hotspot when using the GPU display model. The minimum NVIDIA® driver version that supports the GPU display model on Vista has been changed from 178.68 to 182.61.

2. The Windows installers no longer add duplicate firewall exceptions during product updates.

3. Resolves a problem with the Sender where some key sequences such as alt-tab could be missed.

4. Resolves a rare case where the Receiver crashes on startup.

5. Resolves a rare case where the Sender could prevent system shutdown or reboot. This behavior has been seen only on Korean localizations of Vista and Windows 7 in combination with the Korean version of Office 2007.

6. Resolves an occasional Sender crash when using the GPU display model and a session is taken over by a second Receiver.

What's new in Release 5.4.1

HP RGS Release 5.4.1 is a release of the Windows Sender and Receiver.

Defect fixes:

1. Resolves a problem detecting and setting toggle keys (Caps Lock, Num Lock, Scroll Lock) on the Sender. Resolves a problem where the Receiver would not exit when a COM Receiver plugin was installed.

2. Resolves a problem configuring the HP RGS audio driver when installing or updating the Sender from an RDP connection on a blade running Vista or Windows 7.

3. Resolves a problem configuring the mirror driver and USB drivers when updating (not installing) a Vista 64 or Windows 7 64 system.

What's new in Release 5.4.0

HP RGS Release 5.4.0 is a release for all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The HP RGS Sender and Receiver are supported on Windows 7 Enterprise and Professional platforms.

2. The Windows Receiver now supports file association with a MIME type. Files with the extension ".rgReceiver" are treated as HP RGS Receiver configuration files. When opened, the Receiver is automatically started using the property values specified in the .rgReceiver file.

3. The Windows Receiver has several per-session properties that allow the Receiver to automatically connect to a specified Sender using a specified username and password. PAM authentication is not supported. When connecting to a Linux® Sender the username and password properties are ignored.

4. The Receiver has a new command line option "-config filename", which specifies the name of an HP RGS Receiver configuration file.

5. The default value of the property.

6. RgSender.Network.IsListenOnAllInterfacesEnabled is now 1 (enabled). The default value of RgSender.Network.Interface.0.IsEnabled is now 0. In addition to listening on all interfaces by default, the Sender will listen on interfaces that are added or changed after the Sender has started.

7. The Sender and Receiver include a lossless CODEC–JPEG-LS. The codec is selected with the property RgSender.ImageCodec.Preferred=JPEG-LS.

8. The Sender GUI for Linux® Senders now appears in the system tray instead of on the desktop.

9. Single Sign-On does not require enabling Ctrl-Alt-Del to login.

10. The Linux® Receiver installer includes support for audio without manually building optional libraries.

11. The Linux® Sender installer disables the Composite extension as part of the X server configuration.

12. The Windows Sender installer adds firewall exceptions for the Sender.

13. The Windows Sender/Receiver support relative mouse moves for applications that manage the pointer location explicitly.

14. The feature is toggled by the "g" hotkey on the Receiver.

Defect fixes:

1. The Comparitron display model now correctly displays cursors on a secure desktop and does not display cursors that are hidden.

2. Resolves a Linux® Sender abort upon login triggered by the "KillInitClients" behavior of desktop managers.

3. Japanese keyboard layouts on Linux® Receivers will now process the Yen symbol.

4. The Windows rgsender service now respects the Service Control Manager recovery settings on Windows XP.

5. The Sender clipboard now supports the same formats on Vista as it does on Windows XP.

What's new in Release 5.3.3

HP RGS Release 5.3.3 is a release of the Windows Sender for HP SkyRoom.

This is a defect fix only release.

Defect fix:

1. Resolves a rare case where the Sender could prevent system shutdown or reboot. This behavior has been seen only on Korean localizations of Vista and Windows 7 in combination with the Korean version of Office 2007.

What's new in Release 5.3.2

HP RGS Release 5.3.2 is a release of the Windows Receiver. This is a defect fix only release.

Defect fix:

1. Resolves an incorrect key generated by the shift-\ key sequence when using a Japanese keyboard.

What's new in Release 5.3.1

HP RGS Release 5.3.1 is a release for Windows Sender and Receiver with installer changes for HP SkyRoom. Functionality is the same as 5.3.0.

What's new in Release 5.3.0

HP RGS Release 5.3.0 is a release for all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The HP RGS Sender is supported on

2. Windows Vista Business and Enterprise platforms.

3. Linux® Sender supports bi-directional cut and paste operations. This support is for text only.

4. Support of Swedish keyboard localization.

5. Simplification of HP RGS licensing. There are now two types of licenses for HP RGS: HP RGS_VDI which supports VMware and HP RGS_General which supports all other systems (including non-HP hardware running Windows).

Defect fixes:

1. Windows Sender supports large cursors (greater than 64x64).

2. Linux® Receivers on a system that does not support the X server MIT-SHM extension will correctly display setup mode, networking connection warnings and remote cursor tracking.

3. Exiting the Linux® Sender will not leave the rgsender process in the zombie state.

4. Resolves intermittent failure when starting the Windows Sender GUI.

5. Resolves intermittent problems when transitioning between RDP and HP RGS.

6. Resolves an authorization problem when connecting.

7. Windows Receiver correctly displays masked color cursors and monochrome cursors of sizes not divisible by 4.

What's new in Release 5.2.7

HP RGS Release 5.2.7 is a release of the Windows Sender. The following list describes the new defect fix.

Defect fix:

1. Resolves an inability to run the Sender after a reboot when connected to a Windows domain.

What's new in Release 5.2.6

HP RGS Release 5.2.6 is a release for all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The behavior of the image codec can be changed to lower network bandwidth and CPU utilization at the expense of image quality. The behavior is controlled by the "Boost" checkbox in the Remote Display Window Toolbar and the property RgReceiver.ImageCodec.IsBoostEnabled.

2. The Receiver Display View Window can be iconified with the "n" hotkey and disconnected with the "c" hotkey.

3. Windows Receiver now supports

4. auto-remoting of specific USB devices. Auto remoted devices are used locally on the Receiver and automatically remoted to the Sender when an HP RGS connection is established.

Defect fixes:

1. Resolves a bluescreen on the Sender when connecting from Receiver with USB devices attached prior to connecting.

2. Resolves an inability to establish an HP RGS connection after connecting to the same Sender with RDP and allowing the screensaver to start.

3. Logoff from a Linux® Sender disconnects the Receiver correctly instead of waiting for expiration of the network timeout.

4. Resolves a Windows Sender hang with simultaneous access of composite or multiple USB devices.

5. Windows rgsender and rgreceiver executables are now signed for compatibility with strict anti-virus programs.

6. Resolves a green cast when using a Linux® Sender configured with a 16 bpp TrueColor visual.

What's new in Release 5.2.5

HP RGS Release 5.2.5 is a release for all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The port used for communication between the Sender and Receiver can be changed with the Sender property RgSender.Network.Port.

2. Windows cursor position snap operations are now detected and reflected on the HP RGS Receiver. This behavior is controlled by the property Rgreceiver.IsMouseSyncEnabled.

3. The hostname of the Receiver system for each connection is now logged in the HP Remote event log of the Sender system.

4. The default Sender maximum update rate is now 30 updates per second instead of unlimited to reduce network bandwidth and

5. CPU utilization. To reinstate previous behavior, set RgSender.MaxImageUpdate=0.

Defect fixes:

1. The HP RGS Sender respects Windows commands to hide the cursor. This eliminates a double cursor seen in several applications.

2. Resolves intermittent start-up of the Sender GUI on Linux® systems.

3. Resolves a Sender hang on RHEL4 Linux® systems.

4. Improved Support for DirectDraw applications on non-primary displays.

5. The HP RGS Receiver now shuts down cleanly if a connection client terminates unexpectedly.

6. Resolves an authentication problem when using Easy Login.

What's new in Release 5.2.4

HP RGS Release 5.2.4 is a release of the Windows Receiver and Sender. The following list describes the fix.

Defect fix:

1. HP RGS Sender running on a Blade PC would incorrectly attempt to acquire a Blade Workstation license. The fix corrects rgsender so that it requests a Blade PC license when running on Blade PC hardware.

What's new in Release 5.2.3

HP RGS Release 5.2.3 is an early access release of the Windows Sender.

What's new in Release 5.2.2

HP RGS Release 5.2.2 is a release of the Windows Receiver.

New feature:

1. Add support for the LLC504 Pen power HID device.

Defect fixes:

2. Receiver USB hub filter driver signed for Vista 64.

3. Thin Client no longer re-enumerates USB bus on subsequent reboots once HP RGS Receiver is uninstalled.

What's new in Release 5.2.1

HP RGS Release 5.2.1 is an early access release of the Windows Sender and Receiver for use only with the HP SkyRoom product.

What's new in Release 5.2.0

HP RGS Release 5.2.0 is a release for all supported products and platforms. The following list describes the new features and defect fixes.

New features:

1. The Sender uses FlexLM to enable license validation. For information regarding HP RGS use of FlexLM, please refer to the "HP Remote Graphics Software Licensing. Guide" by visiting hp.com/support/RGS_ manuals.

2. HP RGS supports USB audio devices and USB video devices. For more information regarding all of the new devices that are now supported, please refer to the "HP Remote Graphics Software 5.2 User Guide" by visiting hp.com/support/RGS_manuals.

3. The Linux® Sender supports Norwegian keyboards.

4. The Windows Sender supports Traditional Chinese, Korean, and Russian keyboards.

5. The Linux® Sender supports remote audio for devices that support audio capture. See the documentation for details.

6. HP RGS supports Sender-to-Sender cut & paste. Cut & paste is supported between Windows Senders only. There is no cut & paste support for any Linux® Sender.

7. The Linux® Sender supports match Receiver resolution.

8. The Receiver supports Windows Vista.

Defect fixes:

1. Developers using the HP RGS SDK may have experienced a crash when calling "Stop" using the COM automation interface. This has been fixed.

2. Developers using the HP RGS SDK may have experienced an intermittent hang when running under COM automation.

3. This has been fixed.

4. Developers using the HP RGS SDK may have experienced a crash in the Receiver when the user has an expired password in COM automation mode.

5. Resolved a hang when the second display on the Sender is set as the primary display.

What's new in Release 5.1.6

HP RGS Release 5.1.6 is a release of the Linux® Sender and Windows and Linux® Receivers.

This is a defect fix only release.

Defect fixes:

1. With Linux® Senders, screen resolution changes initiated by applications executing on the Sender system are now handled correctly.

2. Enablement for Linux® Senders on the xw2x220c blade. Older versions of the Sender will cause this blade to hang or reboot.

3. In a SAM environment, resolves a Receiver crash that could occur when the connection client stops the Receiver application.

4. In a SAM environment, resolves an issue that causes the Receiver to exit after displaying a dialog box. This issue can be encountered when connecting to a system as a user whose password is expired.

5. The symptom is that the change password dialog is never displayed.

6. Resolves a defect with borderless window placement in RHEL5.

What's new in Release 5.1.5

HP RGS Release 5.1.5 is a release of all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The Receiver will now be able to connect to a Sender that resides behind a router that uses Network Address Translation.

2. Support was added for the Swiss French, Czech QWERTY and Czech QWERTZ keyboards.

3. The IP address of the Receiver system for each connection is now logged in the HP Remote event log of the Sender system.

4. Support has been added for Red Hat Enterprise Linux® Version 5.2 on 64-bit x86 architectures, with the Receiver also being supported on 32-bit x86 architectures.

Defect fix:

1. Numerous screen-blanking defects have been fixed:

2. Multi-monitor Senders now blank all screens.

3. Monitors are more reliably unblanked when HP RGS disconnects.

4. Blanking is now supported on Windows XP 64.

What's new in Release 5.1.4

HP RGS Release 5.1.4 is a release of the Windows Sender only. This release resolves a defect with the Windows Sender.

Defect fix:

1. Resolved an intermittent crash in the Windows Sender that could occur after a Receiver disconnect.

What's new in Release 5.1.3

HP RGS Release 5.1.3 is a release of all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The Sender is no longer supported on Novell SUSE Linux® Enterprise Server 9.

2. The Receiver is now supported on Red Hat Enterprise Linux® Version 4 for 32-bit x86 platforms in addition to 64-bit x86 platforms.

3. HP RGS Performance has been improved in a high latency environment.

4.   A Remote Microphone is now supported in HP RGS.

5.   Cut and paste has been added that will allow copying between the Receiver and Sender clipboard on Windows platforms.

6.   Command line options have been added to the installers for the Windows Receiver and Sender that enable easier automated installs.

7.   Dynamic USB Session switching has been enabled. In previous versions of HP RGS, you must select the Sender to use with remote USB before establishing any connections. Now you may change the Sender for USB while connections are active.

8.   The HP RGS installers have been enhanced to create an installer log file when the HP RGS Sender and HP RGS Receiver are installed. The install is logged to the files C:\ TEMP\rgSenderInstaller.log and C:\TEMP\ rgReceiverInstaller.log for the Sender and Receiver, respectively.

9.   Smart cards are now supported via the HP System Allocation Manager (SAM).

10. Support for resolution matching on systems with multiple displays has been added.

Defect fixes:

An issue with the Linux® Sender failing to listen for connections on InfiniBand and other non-ethernet devices has been resolved. NIC Binding on a Linux® Sender will now behave more like NIC Binding on a Windows Sender.

The Easy Login feature now works more reliably in a Novell Netware Environment.

An issue with the Sender sometimes failing to start on Windows XP after a system reboot has been resolved.

An issue where certain custom trader keypads could cause the Receiver to hang has been resolved

What's new in Release 5.1.2

Release 5.1.2 is a release of the HP RGS Receiver on all supported platforms. The following list describes the new defect fix.

Defect fix:

1. Performance when using a multi-monitor setup has been improved.

What's new in Release 5.1.1

HP RGS Release 5.1.1 is a release of all supported products and platforms.

The following list describes the new features.

New features:

1.   The HP RGS Sender now supports remote audio and remote USB on Windows XP 64.

2.   The HP RGS Receiver now supports remote USB on Windows XP 64.

3.   The HP RGS Sender for Windows now has better support for multi-monitor configurations.

4.   The HP RGS Sender may now be installed from within a Microsoft Remote Desktop Connection.

What's new in Release 5.1.0

HP RGS Release 5.1.0 is a release of all supported products and platforms.

The following list describes the new features and defect fixes.

New features:

1. The HP RGS Sender supports the ability to specify which network interfaces are used to accept connections from HP RGS Receivers (this is called NIC Binding). The default behavior is to listen on the "first" network interface reported by the operating system.

2. The Receiver and Sender are now supported on Red Hat Enterprise Linux® Version 4 for 64-bit x86 platforms.

3. Support for changing expired passwords on a windows Sender has been added.

4. In previous versions of HP RGS, once a user's password expired, the Receiver would display an Authentication Failed dialog. Now, the user can change their password and complete the connection to the Sender.

5. A new product, HP RGS PC, is available. It is targeted at the commercial desktop PC usage model. The original HP RGS Workstation version is targeted at the high-performance workstation usage model.

Defect fixes:

1. An issue with HP RGS/RDP interoperability has been resolved that would sometimes not allow future HP RGS connections after a Remote Desktop connection.

2. An issue with the biometric device on Bloomberg keyboards has been resolved.

3. Disconnects that could occur when multiple remote USB storage devices are simultaneously connected and copying large amounts of data has been resolved.

What's new in Release 5.0.0

HP RGS Release 5.0.0 is a major release.

The following list describes the new features and defect fixes.

New features:

1. Remote USB support for a wide variety of new USB devices has been added. The list of supported USB devices in HP RGS is available at the following URL: hp.com/go/RGS.

2. Remote USB support has been added to the HP RGS Receiver for Windows. Remote USB continues to be supported on a HP Blade Workstation Client and HP RGS Sender for Windows.

3. USB Access Control List (ACL) has been added to the HP RGS Sender for Windows.

4. USB device connects, disconnects, and denied devices are logged by the HP RGS Sender for Windows in the Windows Event Log.

5. Performance of the graphics image processing algorithms have been improved by up to 2X.

6. Console blanking blacks out the screen of a monitor attached to the Sender if a monitor is connected and the primary user is connected. Note, this is only supported for specific graphics adapters and hardware platforms. See the User's Guide for more details. If it is not possible to blank the monitor, a warning dialog will be displayed on the desktop to inform the user of the possibility of eavesdropping. In previous releases if a monitor was attached to the system running the HP RGS Sender, the monitor was not blanked. The HP RGS Sender property "RgSender.IsBlankScreenAndBlockInputEnabled" is provided to disable blanking.

7. The HP RGS Receiver can be used to automatically adjust the display resolution of the Sender system to match the display resolution of the Receiver system if possible.

Support for the following keyboards has been added when using the HP RGS Sender for Windows in combination with any new HP RGS Receiver:

1. Brazilian Portuguese

2. Portuguese

3. French Belgian—Français (Belgique)

4. Simplified Chinese

5. Dutch Nederlands

6. Turkish-Q

7. Latin American Spanish

8. Japanese

- Support for Novell SUSE Linux® Enterprise Server 9 on AMD64 and Intel64 processor platforms has been added for the HP RGS Sender for Linux® on HP Blade Workstations only. The HP RGS Sender for Linux® on x86 processor platforms has been delayed until a future release. The HP RGS Sender for Linux® is not supported on non-HP platforms.

- Support for the HP RGS Sender for Linux® on all versions of Red Hat Linux® has been delayed until a future release. Previously, the HP RGS Sender for Linux® was supported on Red Hat Enterprise Linux® WS3 32-bit & 64-bit.

- Support for Linux® Receivers has been delayed until a future release.

- The Linux® Sender installers have been improved to automatically configure the PAM configuration files, XF86Config and xorg.conf files.

- The HP RGS connection will not be disconnected until after log off has been fully completed when using the HP RGS Sender for Windows when either Easy Login (ELO) or Single Sign-On (SSO) is enabled if the Sender property RgSender.IsDisconnectOnLogoutEnabled=1 is set to the default value. In previous releases the disconnect may occur early and not allow the user to close applications or the Windows log off sound may be prematurely cut-off.

- Users with Administrator privileges can now connect to a HP RGS Sender for Windows when the desktop is locked. Then they can logoff the logged in user and then login as a different user. In previous releases it was not possible for a different user to connect to another users locked desktop.

- If a user is connected as User A and the property IsDisconnectOnLogoutEnabled is set to "0" and the user logs off, the connection will not be disconnected. When another user logs in using the same HP RGS connection, for example as User B, the connection will be allowed to persist if Single Sign-On or easy login is active and easy login is supported by default or force

- enabled. Previously, the connection would be disconnected.

- The rgadmin utility has been enhanced to allow the HP RGS Sender GINA module (hprgina.dll) to be chained with other third-party GINA modules.

- All Receiver properties now have an "IsMutable" suffix specifier which allows the corresponding user-interface controls to be deactivated when disabled.

- The HP RGS Sender for Windows is now supported on the HP BladeSystem bc2000 and bc2500.

- HP RGS for HP-UX has been discontinued.

Defect fixes:

1. A defect where the screen could become corrupt if the display properties have been configured to enable "Microsoft Windows Dual Screen" on a Sender running on a Windows system has been resolved.

2. If Single Sign-On (SSO) is active and the same user connects using another Receiver while their previous connection is open, the previous connection will be disconnected without locking the desktop. Previously, the desktop would always be locked, and the user would be required to enter their credentials again to unlock the desktop.

3. The **rg diagutility** has been extended to detect Windows Firewall Group Policies in addition to firewall policies set through the Windows Firewall Control Panel Applet.

4. The default key repeat behavior has been modified in the HP RGS Receiver for Linux® from issuing ((down, up), (down, up), ...) key sequences to issuing (down, down, down, ...) key sequences. This may allow applications such as the Pinball application on Windows to work correctly.

5. Non-US characters in a username, password or domain dialog/field now work. In previous releases non-US characters may have failed.

6. Known issues and limitations

7. The Aero desktop is supported on Windows Vista and Windows 7 Senders only with NVIDIA® graphics cards that have native DX10 support.

- Windows Vista systems require driver version 182.61 and later.

- Windows 7 systems require driver version 191.56 and later.

- Vista and Windows 7 will perform session operations that are outside the control of HP RGS. When HP RGS displaces an existing RDC connection, the desktop may enter a temporary logged in and unlocked state due to these operations. The user should exercise caution in situations where even a temporarily unlocked desktop is a security concern. This issue can be avoided by logging out of the RDC connection before establishing an HP RGS connection.

- The HP RGS Sender does not support video overlay planes. Some media players that use video overlay planes will not be displayed properly. This can often be resolved by disabling the use of video overlay planes in the media player.

- When a password is not set on a Windows Sender you will not be able to authenticate. To resolve this, you must set a password.

- If gamma correction is being applied on the Sender, it will not be applied in the Receiver.

- Full-screen crosshair cursors on Linux® Sender are not visible. Please refer to the User's Guide under Troubleshooting Known Issues and Limitations for additional information and workarounds.

- Starting the XServer manually using "startx" is not supported with HP Remote Graphics using a Linux® Sender because startx does not support Pluggable Authentication Module (PAM) session management.

- The HP RGS Sender for Linux® does not support the experimental Xgl server.

- The HP RGS Sender for Linux® does not support AIGLX.

- Full-screen Windows applications, such as DOS prompts and games, are not supported. If you attempt to open a full-screen DOS window, the window will be reset to the normal size.

- The Linux® Sender does not correctly remote applications using ARGB visuals presented by the Composite extension. As of 5.4, the customization step of the install process disables the extension.

- These visuals can be hidden from an application by setting the environment variable XLIB_SKIP_ ARGB_ VISUALS=The visuals can be completely removed by disabling the Composite extension.

- The Linux® Gnome Desktop Manager interferes with Linux® match Receiver resolution. The GDM login screen does not repaint as expected when the screen is resized due to match Receiver resolution. GDM can store screen resolution preferences on a per-user basis. The resolution can be changed by GDM upon user login.

- Windows Sender screen blanking can fail silently on devices that report success of the Set Device Gamma Ramp call but do not actually succeed. Setting brightness or gamma with device control panel applications can make blanked displays viewable.

- The input method editor has been disabled in the password field of the HP RGS authentication dialogs. To enable the IME, see the property RgReceiver.IsInputMethodForPasswordFieldEnabled.

- A Receiver log file may not be generated for a user if their username contains a non-ascii character. A logfile location with only ascii characters maybe specified in the 'Logging' tab of the HP RGS Receiver GUI.

- When a HP RGS session ends, it is possible that the Sender monitor will remain blanked.

- The problem can be resolved by connecting again with HP RGS and then disconnecting normally.

- When using NVIDIA® graphics with 10-bitmonitors, 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.

- On Windows touch devices, increasing the Sender display resolution while connected can cause problems with tapping the confirm resolution dialog box. Use the virtual mouse to click the button.

Security issues:

1. If User A connects to a system and then logs in as another user then User A will be disconnected, but the system will now be

2. logged in. Currently, on a login event, all users that do not match the user logging into the system are disconnected by design.

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