Citrix Receiver for Windows 4.4 LTSR

Mar 07, 2018

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About this release

Mar 28, 2017

Citrix Receiver for Windows provides users with secure, self-service access to virtual desktops and apps provided by XenDesktop and XenApp.

What's new in this release

Enhanced RealTime Media Engine (RTME) integration

This release introduces enhancements to the Citrix Receiver for Windows installation paradigm by incorporating RTME into a single download and installation package. Previously, users needed to install Citrix Receiver, then launch a separate MSI installation package to integrate RTME functionality in Receiver.

This created a less desireable user experience which impeded widespread adoption of the HDX RealTime Optimization Pack in some organizations; BYOD users (and remote workers) needed to install Citrix Receiver first, then return to the Citrix download page to invoke another separate installer for the HDX RTME. A single installer now combines the latest Citrix Receiver for Windows with the HDX RTME installer.

Refer to the installation article for information about using the latest Citrix Receiver installer with HDX RTME in a single executable.

Set the transparency level using session reliability group policy

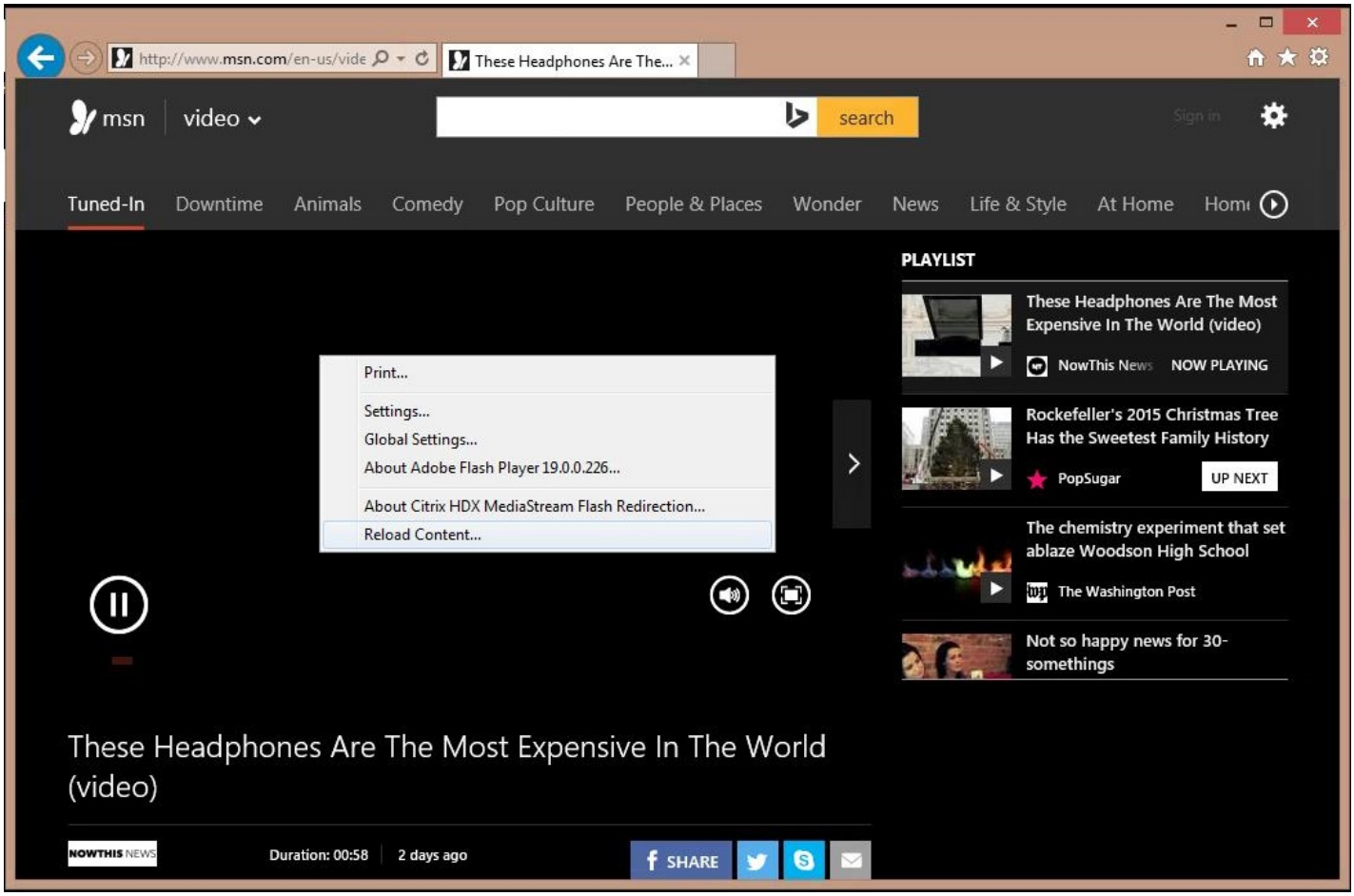
This release introduces enhancements to session reliability group policy. When configuring session reliability group policy, you can now set the transparency level applied to a published app (or desktop) during the session reliability reconnection period. See **Session reliability and group policy** in the Configure Receiver with the Group Policy Object Template topic for more information.

Manual fallback to server rendering

At this release, Citrix Receiver implements manual fallback to server rendering on the client. In some situations when viewing Flash content, a client may experience a black screen and have no way to view the Flash video. In most cases, if Flash fails to render on the client, it will fall back to server-side rendering automatically. However, in some situations, client-side rendering fails and it also fails to fallback.

To resolve such situations, Citrix Receiver for Windows now provides an option for a user to manually refresh the screen and force server-side rendering of the Flash content. To manually fallback, place the cursor in the black Flash window and right click to display a context menu containing an option to "Reload content". The image below illustrates this new functionality.

> **Note**
>
> Video prevention policies set by the administrator will be enforced on the client. For more information, see Multimedia policy settings and Flash Redirection policy settings.



Upgrade SSL SDK libraries to support NIST SP800-52

Citrix Receiver now provides an upgraded SSL SDK library to include support for NIST SP800-52. This functionallity allows Receiver to support the NIST SP800-52 compliance mode for TLS connections. For more information, see Enable NIST SP800-52 compliance mode in the To set client permissions topic. For additional information on session reliability, see **Session reliability and group policy** in the Configure Receiver with the Group Policy Object Template topic.

Improved upgrade process

This release of Citrix Receiver for Windows provides an updated installer that retains existing client settings, improving the user experience when moving from previous versions of Citrix Receiver. In addition, the updated installer seamlessly upgrades from previously installed versions.

Auto-client reconnect and session reliability improvements

These improvements enable better interoperability with CloudBridge and NetScaler Gateway. A session can reconnect using auto-client reconnect and session reliability regardless of the connection path. The specific improvements for this release are as follows:

- Improved connection messages tells your users that the state of their connection and informs them of when they've lost a connection and what do to.
- A countdown timer (in minutes/seconds) now illustrates how long before a session times out. A session is terminated when the countdown timer expires. By default, the timeout value is set to 2 minutes. You can change the default value

in the TransportReconnectMaxRetrySeconds ICA file setting.

Improved HDX performance

Citrix Receiver has been updated to enhance client-side hardware acceleration. This feature improves HDX 3D Pro performance on clients by enabling hardware acceleration. For more information about configuring this feature, refer to the Hardware Decoding section in the User Experience article.

Enhancements to the authorization platform

Citrix Receiver for Windows now integrates functionality that improves how you can verify how clients connect to servers using a specific TLS version, including verification about the specific encryption algorithm, mode, key size and whether SecureICA is enabled. Using this feature, you can also view the current authentication certificate used by the client during an active session. For more information, see the XenApp - XenDesktop article that discusses how cryptography is used.

Improved launch dialog messages

This version improves how Citrix Receiver for Windows uses launch dialogs when informing users about system-related changes and updates. It now provides simple notifications that replace bulky system level notifications when launching a session.

Enhanced diagnostic information collection

This release integrates an improved diagnostic tool you can use to quickly collect system information, and distribute the information by creating a single compressed package that can be easily transferred or uploaded to services such as CIS.

Important: If you are using XenApp or XenDesktop 7.6, consider installing the VDA hotfix available at CTX142037, CTX142094 and CTX142095. This hotfix solves issues with audio after session reconnect, graphics responsiveness, image quality, and screen corruption in some situations.

Fixed Issues

Jun 21, 2017

Receiver for Windows 4.4 CU5 (4.4.5000)

Compared to: Citrix Receiver for Windows 4.4 CU4 (4.4.4000)

Receiver for Windows 4.4 CU5 (4.4.5000) contains all fixes that were included in Receiver for Windows 4.0, 4.0.1, 4.1, 4.1.2, 4.1.100, 4.1.200, 4.2, 4.2.100, 4.3, 4.3.100, 4.4, 4.4 CU1 (4.4.1000), 4.4 CU2 (4.4.2000), 4.4 CU3 (4.4.3000), and 4.4 CU4 (4.4.4000), plus the following, new fixes:

HDX 3D Pro

- With HDX 3D Pro enabled on a VDA, using certain third-party applications can cause the VDA to disconnect.

  To enable the fix, set the following registry keys:

  - *On 32-bit Windows:*
    - HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\Engine\Configuration\Advanced\Modules\Thinwire3.0
      Name: Tw2IgnoreValidationErrors
      Type: REG_SZ
      Value: TRUE
    - HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\Engine\Configuration\Advanced\Modules\Thinwire3.0
      Name: Tw2IgnoreExecutionErrors
      Type: REG_SZ
      Value: TRUE

  - *On 64-bit Windows:*
    - HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\Engine\Configuration\Advanced\Modules\Thinwire3.0
      Name: Tw2IgnoreValidationErrors
      Type: REG_SZ
      Value: TRUE
    - HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\Engine\Configuration\Advanced\Modules\Thinwire3.0
      Name: Tw2IgnoreExecutionErrors
      Type: REG_SZ
      Value: TRUE

  [#LC7655]

Printing

- When you change the default printer on the user device from printer A to printer B and then back to printer A, the change might not be reflected in the active user session until you disconnect and reconnect the session.

  [#LC7004]

Session/Connection

- If a USB device is listed as an unknown device on the user device, the USB device might not be available for redirection. The issue occurs if the USB device is plugged in before the session starts.

  [#LC5920]

- When you assign a desktop group to an external client IP address according to the procedure described in Knowledge Center article CTX128232, the published desktop might fail to start when you access through NetScaler Gateway. The following error message might appear:

  "Cannot start app"

  [#LC5932]

- A published application window might cover the complete screen when maximized using the Windows Aero Snap feature.

  [#LC6284]

- When a user is running multiple sessions with Local App Access/HDX seamless apps enabled, applications and desktops might get shuffled intermittently. With this fix, Local App Access/HDX seamless apps can be enabled in only one session and is disabled for other, concurrent sessions of the same user.

  [#LC6408]

- When you launch Skype for Business from Citrix Receiver for Windows and attempt to make a video call or capture a photo using the webcam on Microsoft Surface Pro 4 devices, the following error message might appear:

  "Can't connect to this camera. Close any active conversations or other programs that are using your camera, and then try again."

  [#LC6699]

- Citrix Receiver for Windows might exit unexpectedly when disconnecting from a VDA that is using an integrated webcam. The issue occurs when you disconnect from the VDA while the webcam is running.

  [#LC6815]

- Attempts by users connecting through NetScaler Gateway to a Store through Citrix Receiver for Windows might fail, and the following error message appears:

  "Cannot connect to server"

  [#LC6859]

- Windows Media live streams might fail to fetch content from the client.

  [#LC6876]

- The logon prompt might not appear when you attempt to refresh applications in Citrix Receiver for Windows after logging off.

  [#LC6891]

- When using the Epic Hyperspace software for medical dictation, the dictation recorder might become unresponsive on the user device while recording.

  [#LC7435]

- File type association might fail to open the associated document when you set the registry value "DisableStubCreation" to "true" under the registry key HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\Dazzle on 32-bit Windows and HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\Dazzle on 64-bit Windows. The issue occurs when the "%1" parameter is missing for the relevant file name extension under the registry key HKEY_CURRENT_USER\SOFTWARE\Classes\Dazzle.*<appname>*.*<extension>*.1\shell\open\command.

  [#LC7619]

- When you add a store through the group policy settings or the command line and configure reconnect at Windows logon, Citrix Receiver for Windows might not automatically reconnect at Windows logon.

  [#LC7679]

Smart Cards

- With the local security setting "Lock Workstation," located under the policy "Interactive logon: Smart card removal behavior" set in a user session, the session might not be locked when you remove the smart card reader from that session.

  [#LC7571]

- When the SCardListReaderGroup API is called in a user session from the server, Citrix Receiver for Windows might not execute the API that is called on the client side.

  [#LC7699]

User Experience

- This fix provides improved support for sounds that play for a short period of time when using high quality audio.

  Note:

  - This fix does not take effect in sessions running on Windows Server 2008 R2.
  - For this fix to work, you must use Citrix Receiver 4.4 for Windows Long Term Service Release (LTSR) CU5 or later versions and the VDA version of XenApp and XenDesktop 7.6 LTSR CU4 or later.

  [#LC5842]

- When using the customized phrase feature on the Input Method Editor (IME) language bar, certain characters might randomly get dropped in a user session.

  [#LC6155]

- The application desktop toolbar (appbar) might no longer work if the operating system of the user device is Microsoft Windows 10, and the appbar is started through a published desktop. The application might start, but the appbar does not respond to subsequent actions.

  [#LC6247]

- Occasionally, when using the Shift key along with any arrow key, the Shift key might not be released in a seamless application.

  [#LC6308]

- In a multi-monitor environment, when you restore a seamless window from full-screen to its original size and then drag it back to the original screen, the window might be clipped incorrectly. As a result, only a partial window is visible. The issue occurs with seamless windows that that are wider than the monitor and thus partially off-screen.

  [#LC6389]

- When you start an application in seamless mode, a second progress bar might appear for a few seconds and then disappear after the first progress bar disappears.

  [#LC6642]

- Double-tapping on a device's touchscreen might not work for some applications within a user session.

  [#LC6698]

- When you click the taskbar icons to switch the focus between the windows of a third-party application in a seamless session, the corresponding window of the third-party application might fail to appear in the foreground.

  [#LC6709]

- When you change the resolution of the user device while one of the mouse buttons is in the down state, seamless apps might not be able to receive the mouse up state for that mouse event. As a result, the mouse capture is lost.

  [#LC7419]

- When using a published version of the Microsoft Paint application with a touch-enabled device, an incorrect drawing might appear. The issue occurs when you move the window from the default position, causing the drawing to appear in an incorrect position.

  [#LC7479]

User Interface

- When applications are subscribed using the Self-Service plug-in and they have the "prefer" keyword configured on the Citrix Delivery Controller, shortcuts and category folders for applications might fail to refresh on the user device. The application shortcuts might not appear under the desktop or Start menu when they are moved or deleted. When the shortcut is moved to a different folder, the existing shortcut and folder are not removed.

  [#LC6533]

- The Japanese characters that appear in the title and footer sections of the Citrix Receiver for Windows logon dialog box might display incorrectly and can be incomplete. The number of characters that are cut off from the actual length depends on the length of the server name.

  [#LC6725]

Miscellaneous

- The setting "RemoveICAFile" in the client-side Group policy settings or registry might not work when more than one application is closed.

  With this fix, there is a behavioral change when ica temp files are created and deleted. When you start multiple seamless applications, the ica temp file for the first application is created, then for subsequent applications, the ica temp files are created and deleted immediately. The ica temp file created for the first application launch is deleted when you close all applications.

  [#LC6810]

Receiver for Windows 4.4 CU4 (4.4.4000)

Compared to: Citrix Receiver for Windows 4.4 CU3 (4.4.3000)

Receiver for Windows 4.4 CU4 (4.4.4000) contains all fixes that were included in Receiver for Windows 4.0, 4.0.1, 4.1, 4.1.2, 4.1.100, 4.1.200, 4.2, 4.2.100, 4.3, 4.3.100, 4.4, 4.4 CU1 (4.4.1000), 4.4 CU2 (4.4.2000), and 4.4 CU3 (4.4.3000) plus the following, new fixes:

HDX Seamless Local Apps

- The user device instances of Outlook and Skype for Business might not close when the logoff policy of local app access is set to terminate the instances.

  [#LC6288]

Memory, CPU Optimization

- The CPU usage of the wfica.exe process might be very high in a double hop-scenario and cause VDAs to become slow or unresponsive. The issue occurs when you launch desktop sessions from multiple user devices to a VDA for Server OS while you start other published applications through Citrix Receiver for Windows in desktop sessions.

  To enable the fix, set the following registry keys:

  - *On 32-bit Windows*:
    HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\Engine\Configuration\Advanced\Modules\WFClient
    Name: SlowHPCPolling
    Type: REG_SZ
    Value: 2-500
  - *On 64-bit Windows*:
    HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\Engine\Configuration\Advanced\Modules\WFClient
    Name: SlowHPCPolling
    Type: REG_SZ
    Value: 2-500

  [#LC5968]

Printing

- When the "Preview on client" option is enabled, printing multiple items in a short interval can result in corrupted data printing while using EMF printer drivers.

  [#LC6763]

Session/Connection

- A system administrator can configure an application with an access policy rule using the "Set-BrokerAccessPolicyRule" command. In certain scenarios, after setting some conditions through that command, attempts to subscribe the application can fail when the store is configured for "Enable Classic Receiver Experience."

  [#LC5053]

- USB redirection might not work for fingerprint devices using a USB 3.0 port that supports "Selective Suspend" with power state D2 before redirection. The devices might fail to wake up during redirection, which can cause the redirection to fail. To enable the fix, set the following registry keys:

  - *On 32-bit Windows*:
    - HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\GenericUSB
      Name: WakeupSelSusPid
      Type: DWORD
      Value: pid of the device
    - HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\GenericUSB
      Name: WakeupSelSusDisable
      Type: DWORD
      Value: 0 to enable and 1 to disable this feature
    - HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\GenericUSB
      Name: WakeupSelSusVid
      Type: DWORD
      Value: vid of the device
  - *On 64-bit Windows*:
    - HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\GenericUSB
      Name: WakeupSelSusPid
      Type: DWORD
      Value: pid of the device
    - HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\GenericUSB
      Name: WakeupSelSusDisable
      Type: DWORD
      Value: 0 to enable and 1 to disable this feature
    - HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\GenericUSB
      Name: WakeupSelSusVid
      Type: DWORD
      Value: vid of the device

      (vid = Vendor ID, pid = Product ID)

  [#LC5132]

- Attempts to launch a session might fail with the following error message:

"The ICA file contains an invalid unsigned parameter."

Before you upgrade or replace the new ADMX file, set the ICA file signing related policy "Enable ICA File Signing" to "Not configured."

Note: This Fix, #LC5338, works with StoreFront 3.9 and later versions.

[#LC5338]

- Communication between an ICA session and the WarpDrive application might fail.

  [#LC5718]

- When you update the "Display name" or "Application name" in AppCenter or Citrix Studio, the original desktop shortcut might be orphaned or broken instead of getting modified, and a new desktop shortcut with the updated application name is created.

  [#LC5757]

- If a session is recovered with Session Reliability and Local App Access is enabled, the Desktop Viewer toolbar might no longer be visible.

  [#LC5883]

- Attempts to start a user session immediately after terminating an ICA session might fail if the following registry key is added:

  HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client
  Name: VdLoadUnLoadTimeOut
  Type: REG_DWORD
  Data: Any value in seconds (Decimal)

  [#LC6122]

- After updating to the Windows 10 Anniversary Update (Build 14393), single mouse clicks register as double clicks within an ICA session.

  [#LC6127]

- When using the desktop lock appliance, the desktop might not launch and the following error message appears: "HDX engine is not running. Contact Administrator."

  [#LC6332]

- Attempts to launch an application from StoreFront might fail after restarting the computer.

  [#LC6413]

- The keyboard and mouse might intermittently disconnect when switching between a wired network LAN and WiFi.

  [#LC6594]

- With Single Sign-on enabled, attempts to subscribe to applications might fail if one out of two or more farms is unavailable, and the following error message appears:

"Your apps are not available at this time. Please try again in a few minutes or contact your help desk with this information: Cannot contact [*Server Name*]."

[#LC6762]

- With this fix, selecting the "Reset Receiver" option in Citrix Receiver for Windows might not affect other users in a double-hop scenario.

  [#LC6822]

- Attempts to restart an HP tablet with Citrix Receiver for Windows and the Checkpoint USB driver installed and connected to a Thunderbolt USB-C docking station can cause the tablet to become unresponsive. Also, the tablet can experience a fatal exception, displaying a blue screen.

  [#LC6848]

User Experience

- When launching a published desktop session in seamless mode by connecting a remote desktop to a user device, the keyboard shortcut dialog tip window might not appear.

  [#LC6483]

User Interface

- After upgrading Citrix Receiver to version 4.3, certain application icons might not appear.

  [#LC6371]

- With local app access enabled, the desktop viewer toolbar might no longer be visible when you dock or undock the device or switch networks.

  Note: On systems with Fix #LC6719 installed, the issue can occur with sessions with local app access enabled and running in the foreground, and in double-hop scenarios where the feature is enabled for both hops.

  [#LC6719]

- With local app access enabled, switching a VDA session between full-screen mode and windowed mode can cause multiple instances of Citrix Receiver for Windows icons to appear on the taskbar.

  [#LC6821]

Miscellaneous

- The setting "RemoveICAFile" might not be honored.

  [#LC5840]

Receiver for Windows 4.4 CU3 (4.4.3000)

Compared to: Citrix Receiver for Windows 4.4 CU2 (4.4.2000)

Receiver for Windows 4.4 CU3 (4.4.3000) contains all fixes that were included in Receiver for Windows 4.0, 4.0.1, 4.1, 4.1.2, 4.1.100, 4.1.200, 4.2, 4.2.100, 4.3, 4.3.100, 4.4, 4.4 CU1 (4.4.1000), and 4.4 CU2 (4.4.2000) plus the following, new fixes:

Local App Access

- Certain SoftPhone applications or Chrome might not display correctly when using Local App Access.

  [#LC4327]

- After disconnecting from a Local App Access (LAA) desktop and connecting to a full-screen non-LAA desktop, the client side taskbar might show up above the full-screen non-LAA desktop.

  [#LC5966]

- When switching a session window from full screen to windowed, a dialog box stating the following does not appear:
  "Session is windowed. Certain LAA features may not work in this mode."
  When launching an app in windowed mode, a dialog box stating the following does not appear:
  "App Launch failed. Session is in windowed mode. LAA app launch is prohibited in this mode. Please switch to full screen to continue with the launch."

  [#LC6291]

- With Local App Access enabled, the desktop session is forced to launch in full screen mode.

  [#LC6294]

Memory, CPU Optimization

- The SelfServicePlugin.exe process can consume high memory.

  [#LC4509]

Session/Connection

- File type association might not work when logging on using a roaming user profile and opening an published application.

  [#LC5184]

- When you dictate into SpeechMike along with another speech recognition application, the SpeechMike might stop working.

  [#LC5632]

- Using the CleanUp.exe process with the silent switch on does not reload Citrix Receiver properly.

  [#LC6039]

- The HDX Engine might exit unexpectedly.

  [#LC6047]

- Attempts to launch a desktop from a Wyse thin client through NetScaler Gateway 11 might result in the following error message:

  "Your client has experienced a problem with authentication to the server."

  [#LC6145]

- Sessions might hang or freeze when continuously moving the session window.

  [#LC6403]

Smart Cards

- With Citrix Receiver for Windows 4.4 installed, an application published on XenApp 6.5 might send a transaction request to a smart card to end a non-active transaction. Citrix Receiver for Windows might incorrectly respond to this request by causing the XenApp server to wait for the response forever or the transaction timeout value that is set can expire.

  [#LC5772]

User Experience

- This fix provides improved support for sounds that play for a short period of time when using real-time mode for client audio. This fix only applies to medium quality audio.

  [#LC4941]

- File type association might not connect the type of file to the correct icon and application when using Windows 8.1 and Windows Server 2012 R2. With this fix, there are two group policies introduced under "SelfService."
  1. Enable Default FTA - To enable or disable the default behavior of FTA
  2. Enable FTA - To enable or disable the FTA feature
  To get the proper file type association icon, disable the group policy "Enable Default FTA."

  [#LC5485]

- The file type association (FTA) icon might behave like the default Citrix Receiver for Windows FTA icon when you log on to a published desktop or if you reset the Citrix Receiver for Windows configuration.

  [#LC5730]

- Surface Pro 4 and HP Elite webcams might not redirect to a session. Note: Webcam redirection might also fail if the webcam doesn't support the screen resolution.

  To fix this, use the following registry key:
  HKEY_CURRENT_USER\Software\Citrix\HdxRealTime
  Name: DefaultWidth
  Type: Dword
  Value: <Webcam supported resolution> Example (Surface Pro 4): 1920

  HKEY_CURRENT_USER\Software\Citrix\HdxRealTime
  Name: DefaultHeight
  Type: Dword
  Value: <Webcam supported resolution> Example (Surface Pro 4): 1080

[#LC5750]

- Desktops assigned on a client name basis are not enumerated correctly in the SelfService window. This issue occurs when using the StoreFront Unified Experience.

  [#LC5773]

Receiver for Windows 4.4 CU2 (4.4.2000)

Compared to: Citrix Receiver for Windows 4.4 CU1 (4.4.1000)

Receiver for Windows 4.4 CU2 (4.4.2000) contains all fixes that were included in Receiver for Windows 4.0, 4.0.1, 4.1, 4.1.2, 4.1.100, 4.1.200, 4.2, 4.2.100, 4.3, 4.3.100, 4.4, and 4.4 CU1 (4.4.1000) plus the following, new fixes:

HDX MediaStream Flash Redirection

- Flash content does not play correctly from ProofHQ.com when SOLFileHook is enabled.

  [#LC4866]

- When using Versions 22 or 18.0.0.360 of Adobe Flash Player and browsing websites with Flash content, the website URLs are added to the dynamic blacklist and are rendered on the server rather than on the user device.

  [#LC5626]

Keyboard

- With the Keyboard Shortcuts policy enabled and the wfica32 process running on a user device, the "Tip: Exiting Full Screen Mode" dialog window might appear when connecting through a Remote Desktop connection. The dialog window fails to accept keyboard and mouse input.

  [#LC4445]

- The local on-screen keyboard might appear in the Citrix Receiver for Windows session every time you enter text while using a Microsoft Surface Pro device with an external USB or a wireless keyboard.

  [#LC5093]

Local App Access

- With Local App Access enabled, if the applications are launched inside a remote session in full-screen or windowed mode, the application icons might not be shown on the taskbar of the VDA session. The endpoint might display multiple application icons on the taskbar instead of one.

  [#LC4217]

- When launching a published desktop session with Local App Access enabled, the Desktop Viewer toolbar might disappear.

  [#LC5064]

- When connected to a Local App Access-enabled VDA, the endpoint device's Task Switcher intermittently appears in the

VDA session when you press ALT+TAB.

[#LC5084]

- A Local App Access enabled desktop might not render correctly when changing from windowed mode to full-screen mode.

  [#LC5091]

- When disconnecting from a VDA with Local App Access enabled, the taskbar might remain in the "Auto-hide" mode.

  [#LC5183]

Session/Connection

- Attempts to cancel the certificate prompt with the NetScaler client certificate authentication set to "Optional" can cause the launching of a published application to fail with the Unknown client error 1110.

  [#LC4169]

- A multiple screen session with fast user switching might show the session only on one screen after reconnecting to the client machine.

  [#LC4382]

- If you launch a seamless application from user device 1 and then connect to that user device from user device 2 over RDP, the launched seamless application might go full-screen and overlap the taskbar of user device 1. The issue persists even after minimizing and restoring the application window.

  [#LC4682]

- Sessions connected through NetScaler Gateway might become unresponsive while consuming high bandwidth.

  [#LC4710]

- When using certain third party software such Cisco WAAS, Citrix Receiver for Windows sessions might disconnect.

  [#LC4805]

- This fix addresses a memory issue in an underlying component.

  [#LC4903]

- After upgrading to Citrix Receiver for Windows 4.4, attempts to start applications might fail intermittently when you log on for the first time until Citrix Receiver for Windows is restarted. The following error message appears:

  "Cannot start app. Please contact your help desk."

  [#LC4975]

- Attempts to access apps through Citrix Receiver from StoreFront might fail from certain user devices. After adding the store successfully, the following error message might appear during the enumeration process:

  "Cannot Connect to Server
  Please check your network and try again

Try Again"

[#LC5039]

- The Single Sign-on process (SSONSvr.exe) might exit unexpectedly or the credentials might not be passed through automatically to the logon screen, causing a prompt to appear to enter the credentials manually.

  [#LC5123]

- Citrix Receiver ignores the proxy bypass list in Internet Explorer.

  [#LC5131]

- After installing Citrix Receiver for Windows and configuring a store through a registry entry or Group Policy Object (GPO), when you log on for the first time after restarting the Virtual Machine (VM), applications might not enumerate.

  [#LC5198]

- With the "Automatically detect settings" option enabled in Microsoft Internet Explorer, application enumeration in Citrix Receiver might be slow.

  [#LC5224]

- With Framehawk enabled, the scroll button on a mouse might not perform any action in a XenDesktop 7.8 VDA session. The corresponding VDA side fix is available in XenDesktop 7.9.

  [#LC5302]

- Attempts to start applications by clicking the icons from the Start menu can fail intermittently even if you have already logged on.

  [#LC5306]

- The wfica32.exe process might exit unexpectedly on the first hop session while using Citrix Receiver for Windows 4.4 and when the user device is an Android device. The issue occurs while attempting to start a published application in a double-hop scenario within the user session.

  [#LC5391]

- During the touch and drag gesture, the mouse button might remain in the down state when using a seamless EPIC application. When you release the touch input outside the seamless EPIC application window, the session might become unresponsive.

  [#LC5644]

System Exceptions

- Citrix Receiver for Windows might exit unexpectedly with the following error message:

  "Citrix HDX Engine has stopped working."

  [#LC4100]

- When you repeatedly play an .avi file in Windows Media Player, the wfica32.exe process can experience a deadlock and

might exit unexpectedly.

[#LC4587]

- When launching a published application over proxy, Citrix Receiver for Windows might exit unexpectedly with the following error message:

  "Citrix HDX Engine has stopped working."

  [#LC5149]

- The Citrix Authentication Manager (AuthMgrSvr.exe) might exit unexpectedly when you attempt to add an account after installing Citrix Receiver for Windows 4.4 on Windows Vista.

  [#LC5242]

User Experience

- With Local App Access enabled, the session window might be positioned outside the Desktop Viewer window when you restore it from the maximized state.

  [#LC2930]

- During the touch and drag gesture, the touch input from Citrix Receiver for Windows might send certain unintended mouse events to the server. This can cause the seamless EPIC application to become unresponsive.

  [#LC5459]

User Interface

- Attempts to open unsubscribed content through StoreFront with Unified Experience might fail with the following error message:

  "Unable to launch your application because the required software is not installed."

  [#LC4308]

- On non-English language operating systems, the text of the Protocol error 1030 that appears in Receiver for Windows might be garbled.

  [#LC4687]

- When using VLC Media Player with skin mode and with Local App Access enabled, the endpoint might display multiple taskbar shortcuts instead of one.

  [#LC4744]

- The GoToMeeting icon does not display in the taskbar when opened using the GoToMeeting URL in a published instance of Microsoft Internet Explorer in seamless mode.

  [#LC4810]

- When switching among FastConnect API users, the following error message appears:

  "Your apps are not available at this time. Please try again in a few minutes."

Additionally, when you log on using the FastConnect API, previous user application shortcuts are not removed from the desktop.

[#LC5602]

Web Interface

- The Citrix Receiver for Windows installation page does not appear in the web interface if an earlier version of Citrix Receiver is installed on the user device.

  [#LC4242]

Miscellaneous

- The wfica32.exe process can consume up to 100% of the CPU.

  [#LC4520]

- When you create a store by using the command, "SelfService.exe command, -init –createprovider," for example, "C:\Program Files (x86)\Citrix\ICA Client\SelfServicePlugin\SelfService.exe -init -createprovider store https://<StoreFrontURL>/Citrix/store/discovery," the related registry keys are created correctly. However, if you click the Receiver icon in the notification area to access the SelfService user interface, the store is deleted from the registry and the "Add Account" dialog might appear.

  [#LC5096]

- The wfica32.exe process can consume up to 100% of the CPU.

  [#LC5189]

- The Client Selective Trust (CST) settings might not be retained and the "HDX File Access" prompt appears for the first and subsequent launches even after selecting the "Do not ask me again for this virtual desktop" option. The issue occurs whenever new registries are created for the same VDA under the registry key "HKEY_Current_User\Software\Citrix\Ica Client\Client Selective Trust" even after selecting the option.

  [#LC5598]

- Configuring NetScaler to TLSv1.2 can prevent external Windows 7 user devices from adding a StoreFront account. The following error message might appear:

  "The Authentication Service could not be contacted."

  [#LC5737]

Receiver for Windows 4.4 CU1 (4.4.1000)

Compared to: Citrix Receiver for Windows 4.4

Receiver for Windows 4.4 CU1 (4.4.1000) contains all fixes that were included in Receiver for Windows 4.0, 4.0.1, 4.1, 4.1.2, 4.1.100, 4.1.200, 4.2, 4.2.100, 4.3, 4.3.100, and 4.4 plus the following, new fixes:

Client Device Issues

- When using Citrix Receiver for Windows 4.3, devices connected through USB 3.0 - including keyboards and mouse devices - might stop working and show the error DRIVER_POWER_STATE_FAILURE (0x9f).

  [#LC4542]

- Surface Pro Type/Touch cover devices are available for USB redirection. After USB redirection, the mouse cursor/keyboard may no longer work outside the session. Currently, a deny rule has been added at installation to prevent Surface Pro Type/Touch covers devices from redirection. Refer to CTX137939 for more details on how these rules work.

  Note: The current fix is limited only for fresh installations of Receiver. For an upgrade, the following deny rule needs to be added manually to the below registry.

  For 32-bit OS:
  HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\GenericUSB

  For 64-bit OS:
  HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\GenericUSB

  Edit the DeviceRules value and add specific Deny rules for the USB device.
  DENY:vid=045e pid=079A # Microsoft Surface Pro TouchCover
  DENY:vid=045e pid=079c # Microsoft Surface Pro Type Cover
  DENY:vid=045e pid=07dc # Microsoft Surface Pro 3 Type Cover
  DENY:vid=045e pid=07e4 # Microsoft Surface Pro 4 Type Cover with fingerprint reader
  DENY:vid=03eb pid=8209 # Surface Pro Atmel maXTouch Digitizer

  Follow the same procedure by adding VID and PID for those devices which warrant prevention of redirection.
  DENY: vid=xxxx pid=xxxx rule for specific devices has to be on top of the list in devicerules.

  [#LC4992]

HDX MediaStream

- When opening Internet Explorer inside a Local App Access session and browsing to a web page with Flash content, and an application is opened and maximized, the contents of the browser's Flash container remain onscreen.

  [#LC4527]

Installing, Uninstalling, Upgrading

- Attempts to suppress the "Add Account" window might fail when following the instructions in Knowledge Center article CTX135438. With this fix, occasionally the "Add Account" window may pop up again even after closing it after resetting or restarting Citrix Receiver.

  [#LC4593]

Keyboard

- If a published application uses a hotkey combination of Ctrl+Alt+[Key], and if Alt+[Key] or Ctrl+[Key] is a Citrix hotkey, the combination is not sent to the server.

  [#LC3592]

- When using a seamless session or applications, mouse clicks occasionally do not function as expected.

[#LC4779]

Local App Access

- After installing the URL redirection plugin for the Mozilla Firefox portable browser, a large white box might appear in the lower portion of the browser.

  [#LC4351]

- When you run redirector.exe to register/unregister browsers in a session, a pop-up window appears with information that most users find not to be of value. With this enhancement, the pop-up window no longer appears unless you run the redirector.exe command with the /verbose option.

  [#LC4480]

- When a published desktop with Local App Access enabled connects, the session window might not respond or can disappear.

  [#LC4689]

- The CDViewer.exe process might not respond when both Local App Access and USB redirection are enabled in Citrix Receiver.

  [#LC5018]

Printing

- On occasion, font embedding fails when fonts with symbols embedded are used with EMF printer drivers.

  [#LC3334]

Seamless Windows

- When you start and then minimize a seamless application, you cannot restore or maximize it from the taskbar.

  [#LC3990]

Session/Connection

- The session does not reconnect properly over proxy using WPAD. When reconnecting to the disconnected session, the following message appears: "The network connection to your application was interrupted. Try to access your application later or contact your help desk."

  [#LC3077]

- Adding a Storefront URL to a region different from the trusted sites' specific configuration for that region does not work.

  [#LC3281]

- To use local file type associations, use the following registry key. The following registry key is set to true by default. When the key is set to true, the local file icon changes to the Citrix Receiver icon if there are no other programs associated with that file on the client machine.
  HKEY_CURRENT_USER\Software\Citrix\Dazzle\EnabledDefaultFTAs=false (REG_SZ)

[#LC4096]

- After Session Reliability and Automatic Client Reconnection timeout disconnect, session launch is delayed and session sharing does not work.

  [#LC4143]

- The size of a mapped client drive might display incorrectly and files cannot be copied to the drive if it exceeds 1TB. With this fix, the drive will display as 0.99TB if it exceeds 1TB. The size of a mapped client drive only get displayed when the Legacy Client Drive Mapping option is enabled.

  [#LC4214]

- With Local App Access (LAA) and Desktop Lock enabled, reconnecting to a full screen published server desktop session can cause the session to lose focus and become unresponsive.

  [#LC4253]

- Using the "Switch user" Windows logon option changes the session resolution for the virtual desktop.

  [#LC4452]

- When using Citrix Receiver, application launch may not work with the ICO SDK.

  [From RcvrForWin4.4_14.4.1000][#LC4550]

- When a user logs on to StoreFront via Self Service Plug-in, the SelfService.exe process may intermittently take focus from the other active windows every hour.

  [#LC4628]

- Epic applications will occasionally lose focus when transitioning networks.

  [#LC4731]

- The wfica32.exe process might exit unexpectedly when you attempt to launch an application, and the following error message appears "The connection to <application_name> failed with status (Unknown client error 0)".

  [#LC4768]

- The NotificationDelay registry setting controls the delay in the appearance of the connection progress bar for seamless connections. Setting this registry occasionally does not work when using the SelfService Plugin to launch the application. This fix addresses that issue.

  On 32-bit Windows:
  HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client
  Name: NotificationDelay
  Type: REG_DWORD
  Data: <Delay, in milliseconds>

  On 64-bit Windows:
  HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432node\Citrix\ICA Client
  Name: NotificationDelay

Type: REG_DWORD
Data: <Delay, in milliseconds>

[#LC4969]

System Exceptions

- When updating XenApp services URLs through GPO and applying a new GPO or updating the same GPO with new store values (such as store1 and store2), Citrix Receiver for Windows might exit unexpectedly.

  [#LC4145]

- The wfica32.exe process might experience an access violation and exit unexpectedly.

  [#LC4482]

- The SelfService.exe process can consume up to 100% of the CPU.

  [#LC4494]

- Sessions with GPU switching enabled on the endpoint can become unresponsive.

  [#LC4562]

User Experience

- This fix provides improved support for sounds that play for a short period of time when using real-time mode for client audio. This fix only applies to low quality audio.

  [#LC2783]

- Windows system sounds are occasionally inaudible in XenApp 7.5.

  [#LC3926]

- In an unstable network environment, popup messages such as "Your apps are not available at this time. Please try again in a few minutes or contact your help desk with this information: Cannot contact [ServerName]." and "The network connection to your application was interrupted. Try to access your application later or contact your help desk." appear. This fix adds support for the following registry key that lets you disable the pop up messages.

  On 32-bit Windows:
  HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\Dazzle
  Name: SuppressDisconnectMessage
  Type: REG_DWORD
  Data: 24(0x18)

  On 64-bit Windows:
  HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\Dazzle
  Name: SuppressDisconnectMessage
  Type: REG_DWORD
  Data: 24(0x18)

  [#LC4378]

User Interface

- Shortcuts occasionally do not reappear if you manually delete them and then refresh the applications.

  [#LC4020]

Receiver for Windows 4.4

Compared to: Citrix Receiver for Windows 4.3.100

Receiver for Windows 4.4 contains all fixes that were included in Receiver for Windows 4.0, 4.0.1, 4.1, 4.1.2, 4.1.100, 4.1.200, 4.2, 4.2.100, 4.3, and 4.3.100, plus the following, new fixes:

Installing, Uninstalling, Upgrading

- After uninstalling Citrix Receiver, Citrix HDX WMI Provider might not work.

  [#LC3943]

Keyboard

- With Session Reliability enabled, the Snap-to feature fails to work in reconnected sessions. The Snap-to feature is a mouse/keyboard setting you configure in **Control Panel** > **Mouse** > **Pointer Options** > **Automatically move pointer to the default button in the dialogue box**.

  [#LC1252]

- Switching between windows by using the Alt+Tab key activates application menus in a published desktop session.

  [#LC2947]

- Citrix Receiver and Remote Desktop Protocol (RDP) sessions share the same keyboard shortcut; pressing "Ctrl+Alt+End" to invoke the "Ctrl+Alt+Delete" function inside a terminal session. As a result, the keyboard shortcut for RDP sessions does not take effect inside a Citrix Receiver session.

  With this fix, the keyboard shortcut for "Ctrl+Alt+End" is not a default for Citrix Receiver sessions and can be enabled by setting the following registry key:

  - *On 32-bit Windows*:

    HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\Engine\Lockdown Profiles\All Regions\Lockdown\Client Engine\Hot Keys
    Name: EnableCtrlAltEnd
    Type: DWORD
    Value: 1

  - *On 64-bit Windows*:

    HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\Engine\Lockdown Profiles\All Regions\Lockdown\Client Engine\Hot Keys

Name: EnableCtrlAltEnd
Type: DWORD
Value: 1 (If the value is 0, the Ctrl+Alt+End is used inside the RDP session.)

[#LC3131]

- After upgrading to Version 4.2 of Citrix Receiver, mouse clicks in double hop scenarios can be erratic.

  [#LC3770]

Local App Access

- With Local App Access enabled, clicking the mouse to resize a session on a virtual machine can render the virtual machine unresponsive.

  [#LC1853]

Logon/Authentication

- Single sign-on might not work when you attempt to log on using a cached fully qualified domain name (FQDN) for credentials.

  [#LC3305]

- When Receiver is configured to use pass-through authentication for a Web Interface or StoreFront server in a published desktop session, Receiver might not pass the credentials and instead prompt for credentials.

  [#LC3388]

Session/Connection

- With session pre-launch configured, if you attempt to reconnect to a session in which a published application is running, an additional instance of that published application is added to the same session.

  [#LC1701]

- A windows session running in the foreground might unexpectedly lose focus.

  [#LC2198]

- Set the Policy as **ProxyEnabled = false** under registry hive **HKEY_LOCAL_MACHINE\SOFTWARE\ <Wow6432Node>\Citrix\AuthManager** which will bypass the Proxy server configured on IE. **Wow6432Node** hive is not applicable if 32 bit OS architecture is used.

  [#LC3129]

- In a multi-port or multi-stream configuration where audio and video data is configured on separate ports, the audio can be out of sync with the video.

  [#LC3181]

- Users authenticated to Receiver 4.2 for Windows with a smart card might see a PIN authentication prompt when starting XenApp published apps.

[#LC3187]

- The configuration "KEYWORDS:prefer" for a published application might not take effect. This can happen when the user logs off Receiver and the SelfService.exe process closes unexpectedly.

  [#LC3190]

- After logging on to Citrix Receiver, the application shortcuts might take a long time to appear on the Start menu and Desktop of the user device.

  [#LC3323]

- Attempts to open a Windows media (.wmv) video from an email message in a published instance of Microsoft Outlook might fail.

  [#LC3453]

- When the Desktop Viewer switches from full-screen mode to window mode, a floating toolbar might appear in the XenDesktop session while using Receiver.

  [#LC3526]

- Desktop sessions might disconnect instead of remaining active when the system that is installed with Desktop Lock with Receiver 4.3 is locked.

  To enable the fix, set the following registry key:

  - *On 32-bit Windows*:

    HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\Dazzle
    Name: LiveInDesktopDisconnectonLock
    Type: REG_SZ
    Value: False
  - *On 64-bit Windows*:

    HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\Dazzle
    Name: LiveInDesktopDisconnectonLock
    Type: REG_SZ
    Value: False

  [#LC3579]

- If you are subscribed to a streamed-to-client application for Citrix Receiver that does not have the Citrix Offline Plug-in installed, the following error message might appear while refreshing applications within Citrix Receiver:

  "Your apps are not available at this time"

  [#LC3609]

- When you log on with Citrix Receiver for Windows, multiple pre-launch sessions on different worker servers might appear in the same Delivery Group for the same user.

[#LC3676]

- After undocking the Thomson Reuters Eikon toolbar in a multiple monitor session, the space occupied by the toolbar is not reclaimed by the session.

  [#LC3773]

- If a device has a version of Receiver for Windows earlier than 4.3 installed and the user upgrades the operating system to Windows 10 from Windows 7, Windows 8, or Windows 8.1, uninstalling the Receiver through Add or Remove Programs might fail. Attempts to upgrade to Receiver for Windows 4.3 also fail.

  [#LC3789]

- The wfica32.exe process might close unexpectedly while attempting to start a new session.

  [#LC3795]

- When you open applications from a published desktop through Citrix Receiver and change the "%appdata%" folder to another file server, the following error message might appear:

  "Error 1046: Virtual Driver is not loaded"

  [#LC3981]

- The alarm window of a locally installed instance of Lotus Notes can take keyboard focus from published applications.

  [#LC3889]

- Icons can appear in category folders in both the Start menu and on the desktop. There should not be a category folder for the desktop. The issue occurs when using the registry key "UseCategoryAsStartMenuPath" to control icons in category folders for both the Start menu and the desktop.

  To enable the fix, you must set the following registry keys:

  - When the registry key "UseDifferentPathsforStartmenuAndDesktop" is set to "false," the key "UseCategoryAsStartMenuPath" controls the creation of category folders for both the Start menu and the desktop.
  - When the registry key "UseDifferentPathsforStartmenuAndDesktop" is set to "true," the key "UseCategoryAsStartMenuPath" controls the creation of an icon category folder in the Start menu. The key "UseCategoryAsDesktopPath" controls the creation of an icon category folder on the desktop.

  [#LC4052]

- Attempts to change a password in Citrix Receiver might fail with the following error message:

  "The old password you have entered is incorrect."

  [#LC4081]

System Exceptions

- While using Microsoft AX Dynamics 2009 or Excel 2007, Citrix Receiver 4.x can exit unexpectedly with the following error message:

"Citrix HDX Engine has stopped working."

[#LC3776]

User Experience

- When attempting to add icon shortcuts to the desktop in a Citrix Receiver session, certain icons might not display the application-specific icon. Instead, the generic white page icon appears.

  [#LC4097]

- Even with the "EnableFTU" set to "false," the CItrix Receiver connection wizard cannot be disabled.

  To prevent the connection wizard from appearing, disable the EnableFTU policy setting using Receiver.adm/Receiver.admx:

  ComputerConfiguration > Administrative Template > Citrix Component > CitrixReceiver > SelfService > EnableFTU

  [#LC4133]

User Interface

- After installing the URL redirection plugin for Mozilla Firefox browser, a large white box might appear in the lower portion of the browser.

  [#LC3409]

- When the seamless registry flag "ENABLE COLOR SYNC" is set, a seamless session might fail to inherit some of the colors from the user device and display black instead.

  To enable the fix, set the following registry key:

  HKEY_LOCAL_MACHINE/System/CurrentControlSet/Control/Citrix/wfshell/TWI
  Name: SeamlessFlags
  Type: REG_DWORD
  Value: 0x10

  [#LC3768]

- When changing the StoreFront URL, if the Citrix Receiver Self-service Plug-in user interface is opened and closed, the applications that were set as disabled might appear as ghost icons instead of appearing as dimmed.

  [#LC3863]

- Certain applications can intermittently fail to enumerate; a blank icon can appear instead of the icon associated with those applications.

  [#LC4065]

- If you change the icon of a published application in Citrix Studio, the desktop shortcut of the application does not update.

  [#LC4124]

Miscellaneous

- When you add an account to Citrix Receiver on a computer that is located behind a proxy, Citrix Receiver does not use the proxy settings when contacting beacons - the location is set to none instead of outside or inside.

  [#LC2100]

- Removing the registry value "ConnectionCenter" from the following key, can cause a forced repair for Citrix Receiver:

  HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run

  [#LC3751]

Note: This version of Citrix Receiver also includes all fixes included in Versions 4.3, 4.2, 4.1, and 4.0.

Known Issues

Jun 21, 2017

No new issues have been found in CU5 to date.

No new issues have been found in CU4 to date.

The following known issue has been observed in this release, along with the known issues in Citrix Receiver for Windows 4.4, 4.4 CU1 (4.4.1000), and 4.4 CU2 (4.4.2000):

- Attempts to exit Citrix Receiver after an ACR/SR timeout might not work. As a workaround, log off and log back on to Citrix Receiver or terminate the wfcrun32 process.

  [#336, #4115]

The following known issue has been observed in this release, along with the known issues in Citrix Receiver for Windows 4.4 and 4.4 CU1 (4.4.1000):

- "When launching a published desktop within a Remote Desktop session without a Desktop Viewer toolbar, the "Tip: Exiting Full Screen Mode" dialog window might not appear. The keyboard shortcut “Shift+F2” controls the appearance of the title bar of the session window. As a workaround, press Shift+F2 to view your desktop and then minimize the session window."

  [#LC4445, #639585]

The following known issues have been observed in this release, along with the known issues in Citrix Receiver for Windows 4.4:

- After uninstalling Citrix Receiver for Windows, the registry value "Installer" under the registry key HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ (on 32-bit systems) and HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ (on 64-bit systems) might not be removed.

  [#635242]

The following known issues have been observed in this release:

- When changing the orientation of a hosted application on Windows 10 Surface Pro devices a tool tip screen appears stating 'Exiting full screen mode'. To resolve this issue, disable tip dialog messages by setting the following registry key:

HKEY_CURRENT_USER\Software\Citrix\ica client\keyboard mappings\tips

Use a value of 1 to disable tips, and use a value of 0 to enable tips; setting this registry key value to 1 disables all tips.

[#608346]

> ### Warning
>
> Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.

- VDA sessions on Windows 7 clients may experience display problems where a white shaded background appears behind screen text. This issue occurs when the client does not have the latest GFX drivers installed. To resolve this issue where the client has older NVIDIA drivers.

  To resolve this issue where the client has older NVIDIA drivers:

  1. Access the NVIDIA control panel.
  2. Access the Video settings.
  3. In the "How do you make color adjustments?" section, select "With NVIDIA Settings."
  4. In NVIDIA settings, select the Advanced tab.
  5. In the Advanced tab, set the Dynamic Range to "Full (0-255)".

  You can alternatley skip the propased workaround by updating the client machine with the latest GFX drivers.

  [#610197]

> ### Note
>
> For more information about NVIDIA driver usage, refer to the Dynamic RGB Range Capability page on the NVIDIA support site.

- Performance degrades when connected to a Windows 2008 R2 VDA in H.264 Graphics mode when hardware decoding is enabled on the client. Citrix recommends using legacy graphics mode on the VDA to avoid this issue.

  [#609292, 611580]

- ACR fails to reconnect to a session after multiple disconnect/reconnect cycles on the client, forcing users to log into StoreFront again.

  [#567938]

- The NetScaler Gateway End Point Analysis Plugin (EPA) does not provide support for native Windows Reciever.

[#534790]

- In some localization instances (for example, running Citrix Receiver in Chinese), a virtual desktop and application may fail to launch when localized login credentials contain surrogate pairs in a username.

  [#556174]

- If you install Receiver as a domain administrator, and select the 'Enable CEIP 'option during installation, the CEIP Window is greyed out in the About menu.

  [#556179]

- Volume Controls might not work for RealTimes for Real Player inside the session due to compatibility issues with RAVE.

  [#573549]

- When using offline mode, Receiver encounters the following issues:
  - Loss of network connectivity does not result in an error message informing the user of the condition. Refreshing apps, or subscribing/unsubscribing to an app, is not possible when using Receiver in offline mode. [#559792, #560091, #560360]
  - Changes to apps or desktops made while Receiver is offline are not synchronized when network connectivity is re-established. [#560362]

- When logging out of Receiver, and then logging back in, the user name is not displayed in the top right corner of the interface.

  [#562107]

- Smart card authorization does not function with XenApp Services sites, however, this functionality works with StoreFront sites. To resolve this issue, point smart card authorization to a StoreFront site.

- References to SSL may still be visible on field labels in the user interface, for example **TLS and Compliance Mode Configuration**. These will be updated in a future release.

- The language bar does not appear on the logon screen of the desktop lock client. The workaround is to use the floating language bar.

  [#502678]

- The Shortcut options present in the Citrix Desktop Viewer are not working when the session is opened in windowed mode.

  [#510529]

- The desktop viewer alert message during disconnect is not applicable for anonymous user sessions. This is by design.

  [#481561]

- Receiver for Windows does not install on a Windows 2012 R2 machine with a User (non-admin) account.

  To resolve this issue:

  1. Click **Start**, type **regedit** and press **Enter**.
  2. Locate the following setting:

  HKEY_LOCAL_MACHINE\Software\Policies\Microsoft\Windows\Installer

  Create: DisableMSI Type: REG_DWORD value = 0 (0 should allow you to install)

  [#492508]

- System tray notifications can sometimes be seen in desktop lock mode.

  [#488620]

- The virtual keyboard does not appear automatically for the Terminal server VDA. The workaround is to open the virtual keyboard using the icon on the Desktop Viewer toolbar or for apps, from the virtual keyboard icon on the task bar.

  [#502774]

- The audio quality is lower than expected when remoting a USB headset (Logitech USB H340) over generic USB. This is by design. Audio optimization is not performed in USB redirection. This will be considered as an enhancement for a future release.

  [#469670]

- Pinch and zoom gestures are not working on applications remoted through pre-7.0 versions of XenApp and XenDesktop, or on XenApp and XenDesktop version 7.0 or later on Window 2008 R2.

  [#517877]

System requirements and compatibility

Apr 13, 2017

Operating system

Citrix Receiver for Windows	Supported OS
4.4	Windows 10
	Windows 8.1, 32-bit and 64-bit editions (including Embedded edition)
	Windows 8, 32-bit and 64-bit editions (including Embedded edition)
	Windows 7, 32-bit and 64-bit editions (including Embedded edition)
	Windows Vista, 32-bit and 64-bit editions
	Windows Thin PC
	Windows Server 2012 R2, Standard and Datacenter editions
	Windows Server 2012, Standard and Datacenter editions
	Windows Server 2008 R2, 64-bit edition
	Windows Server 2008, 32-bit and 64-bit editions

Hardware

- VGA or SVGA video adapter with color monitor
- Windows-compatible sound card for sound support (optional)
- For network connections to the server farm, a network interface card (NIC) and the appropriate network transport software
- Client machines should have the latest GFX drivers in order to experience better graphics performance.

Citrix Receiver for Windows 4.4 can be used on Windows 7 and 8.1 touch-enabled laptops, tablets, and monitors with XenApp and XenDesktop 7 or later, and with Windows 7, 8 and 2012 Virtual Desktop Agents.

- XenApp (any of the following products):
  - Citrix XenApp 7.6
  - Citrix XenApp 7.5
  - Citrix XenApp 6.5, Feature Pack 2, for Windows Server 2008 R2
  - Citrix XenApp 6.5, Feature Pack 1, for Windows Server 2008 R2
  - Citrix XenApp 6.5 for Windows Server 2008 R2
  - Citrix XenApp 4, feature pack 2, for Unix operating systems
- XenDesktop (any of the following products):
  - XenDesktop 7.6
  - XenDesktop 7.5
  - XenDesktop 7.1
  - XenDesktop 7.0
- Citrix VDI-in-a-Box
  - VDI-in-a-Box 5.3
  - VDI-in-a-Box 5.2
- You can use Citrix Receiver for Windows 4.4 browser-based access in conjunction with StoreFront Receiver for Web and Web Interface, with - or without - the NetScaler Gateway plug-in.
  StoreFront:
  - StoreFront 3.0.x, 2.6, 2.5 and 2.1
    Provides direct access to StoreFront stores.
  - StoreFront configured with a Receiver for Web site
    Provides access to StoreFront stores from a web browser. For the limitations of this deployment, refer to "Important considerations" in Receiver for Web sites.

  Web Interface in conjunction with the NetScaler VPN client:
  - Web Interface 5.4 for Windows web sites.
    Provides access to virtual desktops and apps from a Web browser.
  - Web Interface 5.4 for Windows with XenApp Services or XenDesktop Services sites
- Ways to deploy Citrix Receiver to users:
  - Enable users to download from receiver.citrix.com, then configure using an email or services address in conjunction with StoreFront.
  - Offer to install from Citrix Receiver for Web site (configured with StoreFront).
  - Offer to install Receiver from Citrix Web Interface 5.4.
  - Deploy using Active Directory (AD) Group Policy Objects (GPOs).
  - Deploy using Microsoft System Center 2012 Configuration Manager.

- Internet Explorer
  Connections to Citrix Receiver for Web or to Web Interface support the 32-bit mode of Internet Explorer. For the Internet Explorer versions supported, see StoreFront system requirements and Web Interface system requirements.
- Mozilla Firefox 18.x (minimum supported version)
- Google Chrome 21 or 20 (requires StoreFront).

> **Note**
>
> For information on changes to Google Chrome NPAPI support, see the Citrix blog article, Preparing for NPAPI being disabled by Google Chrome.

Citrix Receiver for Windows supports HTTPS and ICA-over-TLS connections through any one of the following configurations:

- For LAN connections:
  - StoreFront using StoreFront services or Citrix Receiver for Web sites
  - Web Interface 5.4 for Windows, using Web Interface or XenApp Services sites

  For information about domain-joined and non-domain-joined devices, refer to the XenDesktop 7 documentation.
- For secure remote or local connections:
  - Citrix NetScaler Gateway 11.x
  - Citrix NetScaler Gateway 10.5

  Windows domain-joined, managed devices (local and remote, with or without VPN) and non-domain joined devices (with or without VPN) are supported.

  For information about the NetScaler Gateway and Access Gateway versions supported by StoreFront, see StoreFront system requirements.

> **Note**
>
> References to NetScaler Gateway in this topic also apply to Access Gateway, unless otherwise indicated.

About secure connections and certificates

> **Note**
>
> For additional information about security certificates, refer to topics under Secure connections and Secure communications.

If a private certificate is installed on the remote gateway, the root certificate for the organization's certificate authority must be installed on the user device to successfully access Citrix resources using Receiver.

> **Note**
>
> If the remote gateway's certificate cannot be verified upon connection (because the root certificate is not included in the local keystore), an untrusted certificate warning appears. If a user chooses to continue through the warning, a list of apps is displayed but the apps will not start.

For information about installing root certificates on user devices as well as configuring Web Interface for certificate use, see Secure Receiver communication.

Wildcard certificates are used in place of individual server certificates for any server within the same domain. Citrix Receiver for Windows supports wildcard certificates, however they should only be used in accordance with your organization's security policy. In practice, alternatives to wildcard certificates, such as a certificate containing the list of server names within the Subject Alternative Name (SAN) extension, could be considered. Such certificates can be issued by both private and public certificate authorities.

If your certificate chain includes an intermediate certificate, the intermediate certificate must be appended to the NetScaler Gateway server certificate. For information, see Configuring Intermediate Certificates.

For connections to StoreFront, Citrix Receiver supports the following authentication methods:

	Receiver for Web using browsers	StoreFront Services site (native)	StoreFront XenApp Services site (native)	NetScaler to Receiver for Web (browser)	NetScaler to StoreFront Services site (native)
Anonymous	Yes	Yes			
Domain	Yes	Yes	Yes	Yes*	Yes*
Domain pass-through	Yes	Yes	Yes		
Security token				Yes*	Yes*
Two-factor (domain with security token)				Yes*	Yes*
SMS				Yes*	Yes*
Smart card	Yes	Yes	No		
User certificate				Yes (NetScaler plug-in)	Yes (NetScaler plug-in)

* With or without the NetScaler plugin installed on the device.

Note

Citrix Receiver for Windows 4.4 supports 2FA (domain plus security token) through NetScaler Gateway to StoreFront native service.

For connections to Web Interface 5.4, Citrix Receiver supports the following authentication methods (Web Interface uses the term "Explicit" for domain and security token authentication):

	Web Interface (browsers)	Web Interface XenApp Services site	NetScaler to Web Interface (browser)	NetScaler to Web Interface XenApp Services site
Anonymous	Yes			
Domain	Yes	Yes	Yes*	
Domain pass-through	Yes	Yes		
Security token			Yes*	
Two-factor (domain with security token)			Yes*	
SMS			Yes*	
Smart card	Yes	No		
User certificate			Yes (NetScaler plug-in)	

* Available only in deployments that include NetScaler Gateway, with or without the associated plug-in installed on the device.

For information about authentication, see Configuring Authentication and Authorization in the NetScaler Gateway documentation andManage topics in the StoreFront documentation. For information about authentication methods supported by Web Interface, seeConfiguring Authentication for the Web Interface.

Citrix Receiver for Windows 4.x can be used to upgrade Receiver for Windows 3.x as well as Citrix online plug-in 12.x. For information more information on upgrading, see Considerations when upgrading.

Note

If you are upgrading from Citrix Receiver 3.4 to version 4.2.100, follow the instructions provided in the Upgrading from Receiver 3.4 to Receiver 4.2.100 Guide. Version 4.2.100 does not support in-place upgrades by the end user. The IT administrator must prepare the environment, so all users on the network can complete the upgrade successfully. The information provided in the upgrade

guide provides step by step instructions.

- .NET Framework requirements
  - .NET 3.5 Service Pack 1 is required by the Self-Service Plug-in, which allows users to subscribe to and launch desktops and applications from the Receiver window or from a command line. For more information, see Configure and install Receiver for Windows using command-line parameters.
  - The .NET 2.0 Service Pack 1 and Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package are required to ensure that the Receiver icon displays correctly. The Microsoft Visual C++ 2005 Service Pack 1 package is included with .NET 2.0 Service Pack 1, .NET 3.5, and .NET 3.5 Service Pack 1; it is also available separately.
  - For XenDesktop connections: To use the Desktop Viewer, .NET 2.0 Service Pack 1 or later is required. This version is required because, if Internet access is not available, certificate revocation checks slow down connection startup times. The checks can be turned off and startup times improved with this version of the Framework but not with .NET 2.0.
- For information about using Receiver with Microsoft Lync Server 2013 and the Microsoft Lync 2013 VDI Plug-in for Windows, see XenDesktop, XenApp and Citrix Receiver Support for Microsoft Lync 2013 VDI Plug-in.
- Supported connection methods and network transports:
  - TCP/IP+HTTP
    See CTX 134341 for additional values, which may be required.
  - TLS+HTTPS

Important

If stores are configured in StoreFront with a Transport type of HTTP, you must add the following key value to the registry key HKLM\Software\[Wow6432Node\]Citrix\AuthManager:ConnectionSecurityMode=Any.

Warning

Using Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Make sure you back up the registry before you edit it.

Install

Aug 11, 2016

The CitrixReceiver.exe installation package can be installed:

- By a user from Citrix.com or your own download site
  - A first-time Receiver user who obtains Receiver from Citrix.com or your own download site can set up an account by entering an email address instead of a server URL. Receiver determines the NetScaler Gateway (or Access Gateway) or StoreFront Server associated with the email address and then prompts the user to log on and continue the installation. This feature is referred to as "email-based account discovery."
    Note: A first-time user is one who does not have Receiver installed on the device.
  - Email-based account discovery for a first-time user does not apply if Receiver is downloaded from a location other than Citrix.com (such as a Receiver for Web site).
  - If your site requires configuration of Receiver, use an alternate deployment method.
- Automatically from Receiver for Web or from a Web Interface logon screen.
  - A first-time Receiver user can set up an account by entering a server URL or downloading a provisioning (CR) file.
- Using an Electronic Software Distribution (ESD) tool
  - A first-time Receiver user must enter a server URL or open a provisioning file to set up an account.

Receiver does not require administrator rights to install unless it will use pass-through authentication.

A single installer now combines the latest Citrix Receiver for Windows with the HDX RTME installer. When installing this version of Citrix Receiver, the HDX RTME is included in the executable file (.exe).

> ### Note
>
> Installing the latest version of Citrix Receiver with integrated RTME support requires administrative privileges on the host machine.

Consider the following HDX RTME issues when installing or upgrading Citrix Receiver:

- The latest version of Citrix ReceiverPlusRTME contains the latest version of the HDX RTME (ver 1.0.0.1); no further installation is required if you want to install RTME.
- Upgrading from a previous Receiver version to the latest bundled version (Citrix Receiver with RTME) is supported. Previously installed versions of RTME will be overwritten with the latest version; upgrading from the same Receiver version to the latest bundled version (for example, Receiver 4.4 to the bundled Receiver 4.4 plus RTME) is not supported.
- If you have an earlier version of RTME, installing the latest Receiver version automatically updates the RTME on the client device.
- If a more recent version of RTME is present, the installer retains the latest version.

> ### Important
>
> The HDX RealTime Connector on your XenApp/XenDesktop servers must be at least version 2.0.0.417 (GA release) for compatability with the new RTME package; that is, RTME 2.0 cannot be used with the 1.8 RTME Connector.

For deployments with StoreFront:

- Best practice for BYOD (Bring Your Own Device) users is to configure the latest versions of NetScaler Gateway and StoreFront as described in the documentation for those products on the Product Documentation site. Attach the provisioning file created by StoreFront to an email and inform users how to upgrade and to open the provisioning file after installing Receiver.
- As an alternative to providing a provisioning file, inform users to enter the URL of NetScaler Gateway (or Access Gateway Enterprise Edition). Or, if you configured email-based account discovery as described in the StoreFront documentation, inform users to enter their email address.
- Another method is to configure a Receiver for Web site as described in the StoreFront documentation and complete the configuration described in Deploy Receiver for Windows from Receiver for Web. Inform users how to upgrade Receiver, access the Receiver for Web site, and download the provisioning file from Receiver for Web (click the user name and click Activate).

For deployments with Web Interface

- Upgrade your Web Interface site with Receiver for Windows and complete the configuration described inDeploy Receiver for Windows from a Web Interface logon screen. Let your users know how to upgrade Receiver. You can, for example, create a download site where users can obtain the renamed Receiver installer.

Considerations when upgrading

> ### Tip
>
> The process for configuring pass-through authentication (single sign-on) changed for Receiver for Windows 4.x. For information, refer to the /includeSSON description in Configure and install Receiver for Windows using command-line parameters.

Citrix Receiver for Windows 4.x can be used to upgrade Receiver for Windows 3.x as well as Citrix online plug-in 12.x.

If Receiver for Windows 3.x was installed per machine, a per-user upgrade (by a user without administrative privileges) is not supported.

If Receiver for Windows 3.x was installed per user, a per-machine upgrade is not supported.

Install and uninstall Receiver for Windows manually

Jan 08, 2016

You can install Receiver from the installation media, a network share, Windows Explorer, or a command line by manually running the CitrixReceiver.exe installer package. For command line installation parameters and space requirements, see Configure and install Receiver for Windows using command-line parameters.

> ## Important
>
> The process for configuring pass-through authentication (single sign-on) changed for Receiver for Windows 4.x. For information, refer to the /includeSSON description in Configure and install Receiver for Windows using command-line parameters.

If company policies prohibit you from using an .exe file, refer to How to Manually Extract, Install, and Remove Individual .msi Files.

Manually installing and configuring Receiver for pass-through authentication

Receiver can be used in pass-through authentication scenarios with XenApp and XenDesktop. This section also describes how to install and configure CitrixReciver.exe to use pass-through authentication for a Web Interface or StoreFront server connection.

When successfully installed and configured, users can access their XenApp/XenDesktop resources without entering their credentials again. The credentials from the client machine are passed through automatically to the endpoint.

Consider the following requirements for pass-through authentication:

- Citrix Receiver for Windows installation package is CitrixReceiver.exe.
- Load group policy files accordingly:
  - receiver.adm (located in the %SystemDrive%\Program Files (x86)\Citrix\ICA Client\Configuration folder on a Windows machine where Citrix Receiver is installed); the receiver.adm file must be present in Windows XP, Windows 2003 and thin client.
  - receiver.admx, receiver.adml (located in the %SystemDrive%\Program Files (x86)\Citrix\ICA Client\Configuration folder on a Windows machine where Citrix Receiver is installed); to load the ADMX file to a GPO, refer to the "About ADMX Template" Usage section in Configure Receiver with the Group Policy Object template.
- Local administrator privileges are required for the client device to allow software installation and configuration.
  Note: .adm files are only used if running XPe OS for thin client.

There are two different deployment scenarios to achieve pass-through authentication for XenApp/XenDesktop when enterprise software deployment tools such as Citrix Merchandising Server or Microsoft System Center Configuration Manager are not used:

1. Install Citrix Receiver manually and then configure using Local Group Policy (importing receiver.adm, receiver.admx, receiver.adml) on various machines individually.
   Note: This is recommended for very small environments.

2. Install Citrix Receiver using Active Directory Group Policy (for example, using**CheckAndDeployCitrixReceiverEnterpriseStartupScript.bat**, which is included with XenApp). Configuration

using **receiver.adm, receiver.admx, receiver.adml** can then be applied using Active Directory Group Policy Management to a large number of machines and centrally managed.

This option is not covered in this article because of a higher level of complexity. Refer to CTX134280 - How to Deploy Citrix Receiver Enterprise for Pass-Through Authentication Using Active Directory Group Policy for more information.

Note: Citrix strongly recommends that any steps outlined in this article are thoroughly tested and validated in non-production environments prior to use.

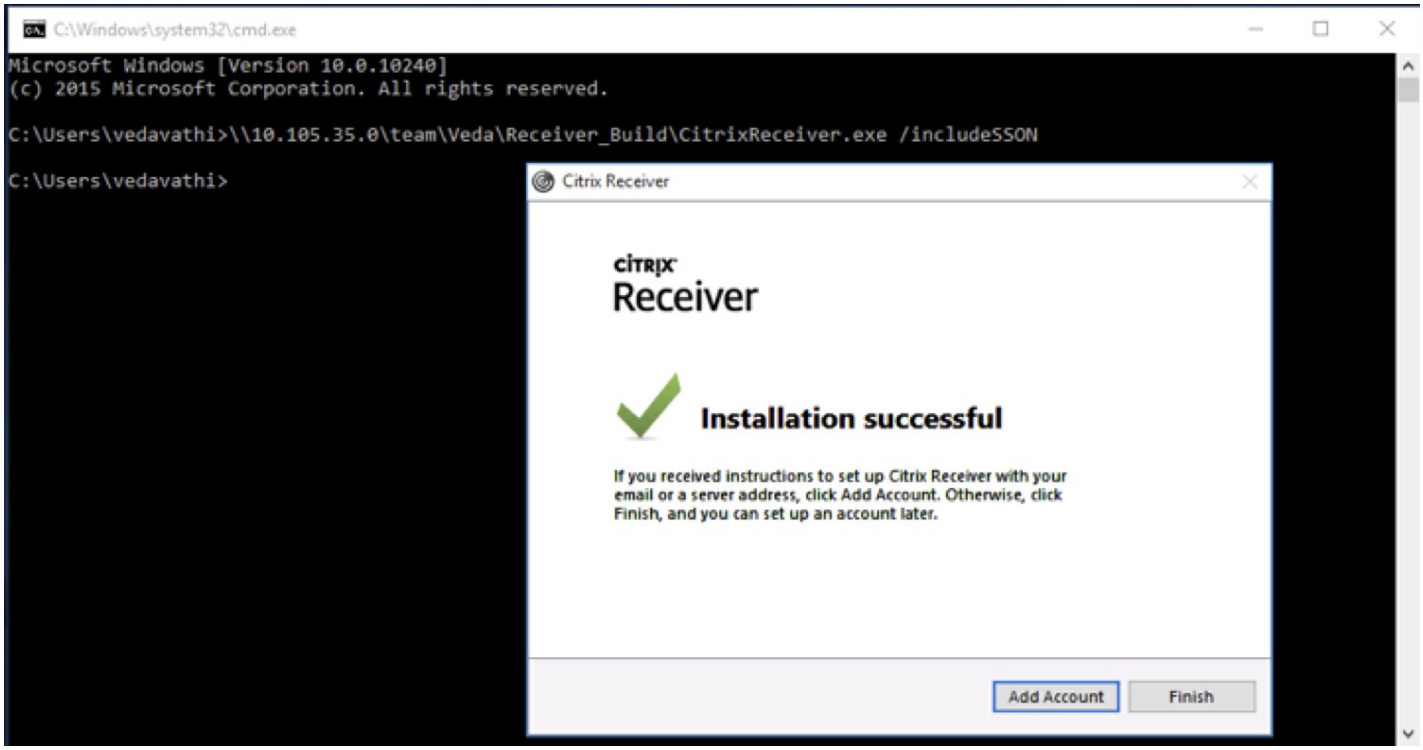
To manually install and configure Receiver for pass-through authentication:

1. Run the following command using PowerShell on the Controller: **Set-BrokerSite -TrustedRequestsSentToTheXmlServicePort $True**
2. Log on to the client machine as the user with administrative rights.
3. Uninstall any existing installations of Online Plugin or Citrix Receiver for Windows from the client machine before starting the installation process
4. Download Citrix Receiver for Windows Installation Package (CitrixReceiver.exe) from Citrix Downloads.

   Use the appropriate installation deployment, either using the command line, or using the GUI.

To use the command line:

1. Open **Windows Command Prompt** and change directory where CitrixReceiver.exe is located.
2. On the **Command Prompt**, run the following command to install Citrix Receiver with the SSON feature enabled: **CitrixReceiver.exe /includeSSON**. Note the information contained in the article Configuring and Installing Receiver for Windows Using Command-Line Parameters; the parameter /includeSSON enables Single Sign-On for Receiver standard (CitrixReceiver.exe). This option is not supported for Receiver enterprise (CitrixReceiverEnterprise.exe), which installs Single Sign-On by default
3. After installation is completed, a pop up message is displayed: “Installation successful.”



To use the GUI:

1. Double click CitrixReceiver.exe.
2. In the Enable Single Sign-on installation Wizard, select the Enable single sign-on checkbox to install Citrix Receiver with the SSON feature enabled. This is equivalent to installing Receiver using the command line with the /includeSSON flag.

Note: The Enable Single Sign-on installation Wizard is only available for fresh (new) installations on a domain joined machine when installed by a local administrator.

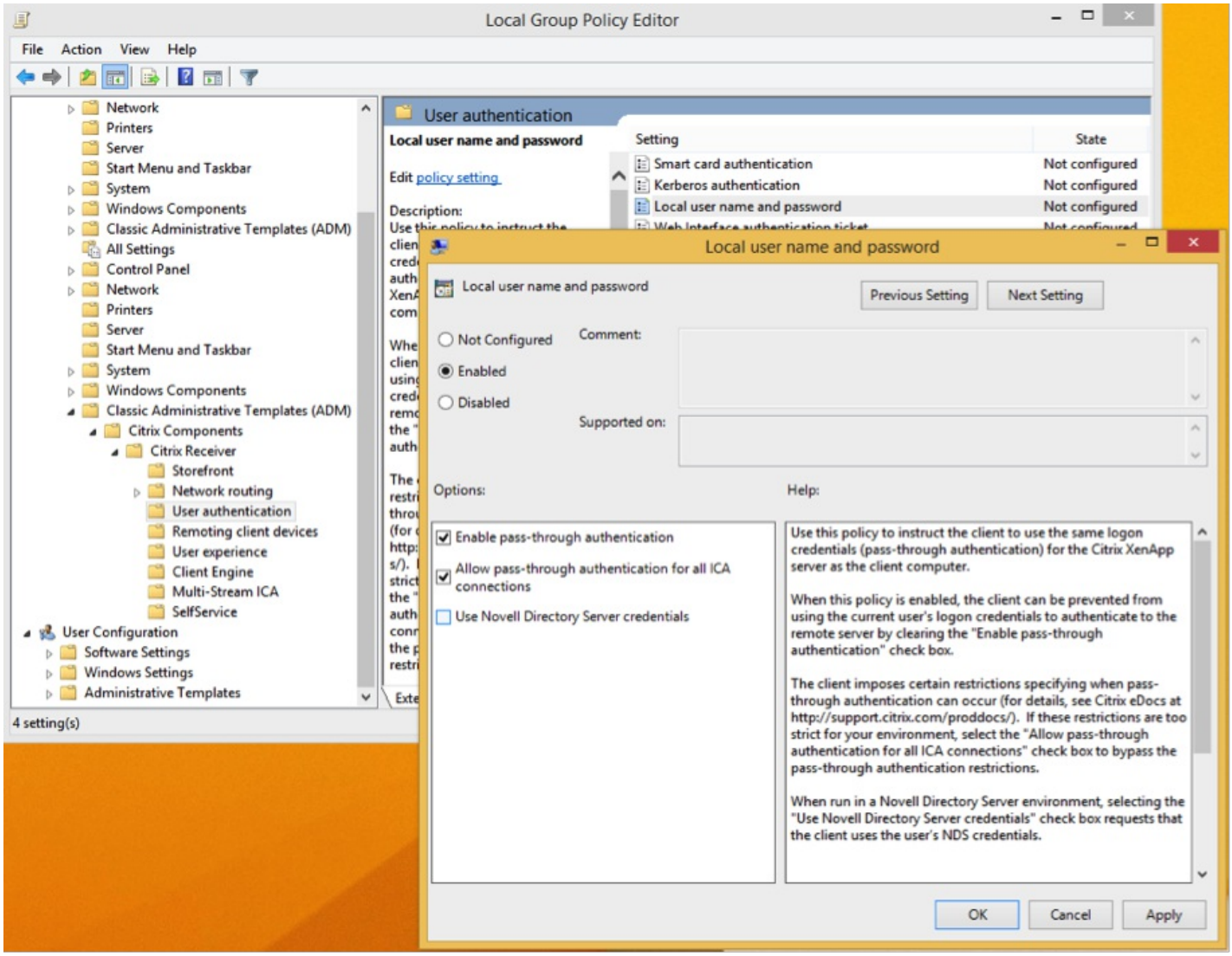
Configuring SSON via Local Group Policy Editor (GPO)

By default, the group policy for SSON is to **Enable pass-through authentication**; this is sufficient for SSON to work when Desktop Viewer and Receiver for Web is not used. When using Desktop Viewer, enable the GPO to **Allow pass-through authentication for all ICA connections**.

To use the ADM file to configure user authentication

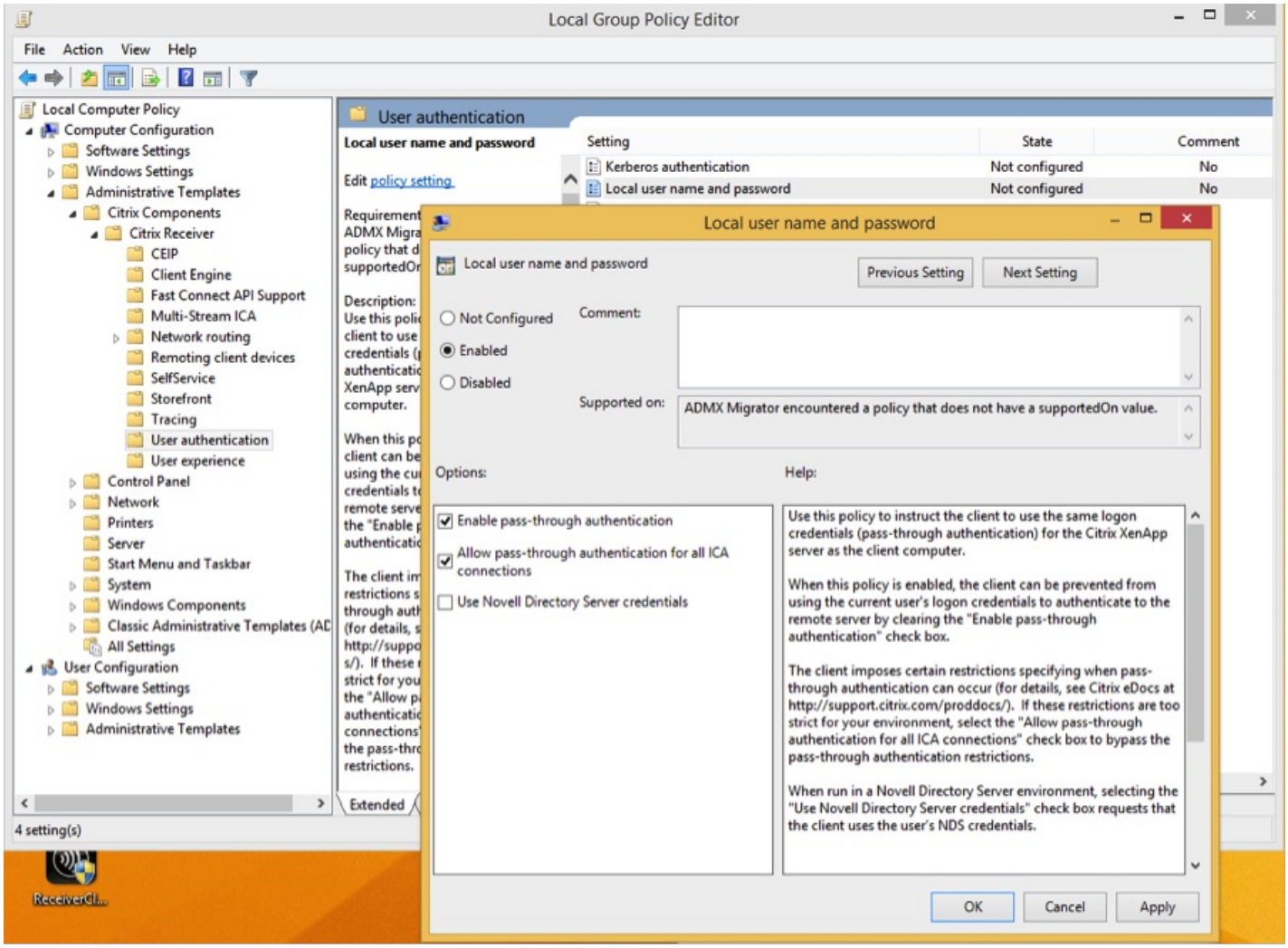
1. Open Local Group Policy Editor by running the command **gpedit.msc** or by searching for "Edit group policy" on Start.
2. Add the receiver.adm template to the Local Group Policy Editor by selecting Computer Configuration; right-click Administrative Templates, and choose Add/Remove Templates > Click **Add**.
3. After the receiver.adm template has been successfully added, expand Computer Configuration > Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > User authentication.

Note: Depending on the StoreFront\Receiver for Web configuration and security settings, the **Allow pass-through authentication for all ICA connections** might have to be selected for pass-through authentication to work.



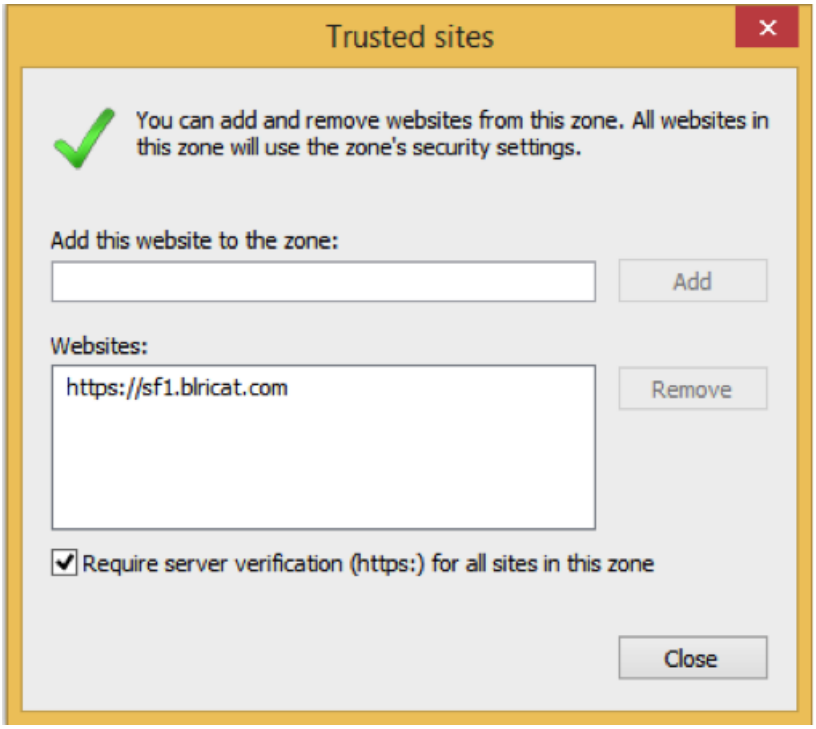
Using a ADMX file for pass-through authentication

1. Add the receiver.admx and receiver.adml template to the Local Group Policy Editor. Refer to the "About ADMX Template Usage" section in Configure Receiver with the Group Policy Object template.
   .
2. After successfully adding the eceiver.admx and receiver.adml template, expand Computer Configuration > Administrative Templates > Citrix Components > Citrix Receiver > User Authentication.
3. Select the **Local user name password** setting.
4. Select Enable pass-through authentication and Allow pass-through authentication for all ICA connections options when enabling the preceding policy.



Add the Fully Qualified Domain Name (FQDN) to the Trusted Sites list

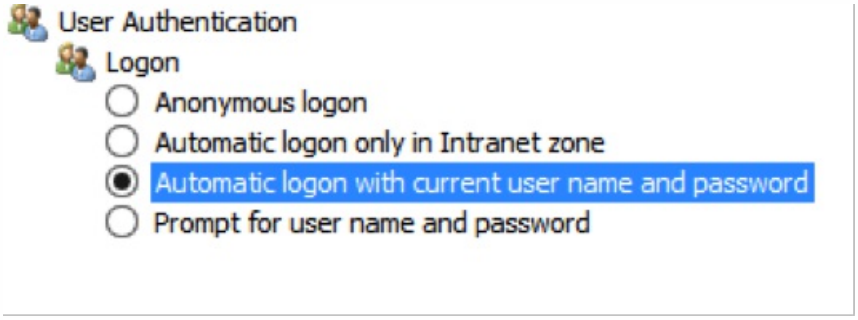
1. On the client device, launch Internet Explorer.
2. In Internet Explorer, click Tools > Internet Options > Trusted sites.
3. Click **Add** to add a FQDN to the trusted site list (for example, https://sf1.blricat.com). Once added, the site appears in the Websites list:



After adding a website to trusted site list, select an appropriate user authentication method:

1. In the Internet Options Security tab, select Trust Sites.
2. Choose **Custom level, security zone.**
3. Scroll to the bottom of the list and select **Automatic logon with current user name and password**.
4. Restart the client device to apply the changes.

Note: The Automatic logon with current user name and password is a per-user setting; if these settings are not configured by the local administrator, each user must configure this option; to apply this setting globally, configure a GPO by adding this value under the Custom level in both Internet and Trusted Sites.



Important Upgrade Considerations with using Single Sign-on (SSON)

The table below contains information about upgrading Receiver using the command line with SSON:

SSON installed prior to upgrade	SSON option during installation of new receiver (CMD Line - /includeSSON or UI	Behavior

	Option checked)	
Yes	Yes	SSON Components Upgraded Registry Key created SSON functionality works – No Action required to enable
Yes	No	SSON Components Upgraded Registry Key created SSON functionality works - No Action required to enable
No	Yes	SSON Components Upgraded Registry Key created SSON functionality disabled – User needs to uninstall receiver and install it back with SSON selected via cmdline option /includeSSON or by GUI option
No	No	SSON component not installed

Note: The Enable Single Sign-on installation Wizard is not available when upgrading an existing version of Citrix Receiver.

You can uninstall Receiver with the Windows Programs and Features utility (Add/Remove Programs).

To remove Receiver using the command line

You can also uninstall Receiver from a command line by typing the following command:

CitrixReceiver.exe /uninstall

After uninstalling Receiver from a user device, the custom Receiver registry keys created by Receiver.adm/Receiver.adml or Receiver.admx remain in the Software\Policies\Citrix\ICA Client directory under HKEY_LOCAL_MACHINE and HKEY_LOCAL_USER. If you reinstall Receiver, these policies might be enforced, possibly causing unexpected behavior. To remove the customizations, delete them manually.

Warning

Using Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Make

sure you back up the registry before you edit it.

Configure and install Receiver for Windows using command-line parameters

Aug 19, 2016

Customize the Citrix Receiver installer by specifying command line options. The installer package self-extracts to the user's temp directory before launching the setup program and requires approximately 57.8 MB of free space in the %temp% directory. The space requirement includes program files, user data, and temp directories after launching several applications.

> ### Warning
>
> Using Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Make sure you back up the registry before you edit it.

To install Citrix Receiver for Windows from a command prompt, use the syntax:

CitrixReceiver.exe [Options]

Option	/? or /help
Description	This switch displays usage information
Sample usage	CitrixReceiver.exe /? CitrixReceiver.exe /help

Option	/noreboot
Description	Suppresses reboot during UI installations. This option is not necessary for silent installs. If you suppress reboot prompts, any USB devices which are in a suspended state when Receiver installs will not be recognized by Receiver until after the user device is restarted.
Sample usage	CitrixReceiver.exe /noreboot

Option	/silent

Description	Disables the error and progress dialogs to run a completely silent installation.
Sample usage	CitrixReceiver.exe /silent

Option	/includeSSON
Description	Installs single sign-on (pass-through) authentication. This option is required for smart card single sign on. The related option, ENABLE_SSON, is enabled when /includeSSON is on the command line. If you use ADDLOCAL= to specify features and you want to install single sign on, you must also specify the value ENABLE_SSON. To enable pass-through authentication for a user device, you must install Receiver with local administrator rights from a command line that has the option /includeSSON. On the user device, you must also enable these policies located in Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > User authentication: ● Local user name and password ● Enable pass-through authentication ● Allow pass-through authentication for all ICA (might be needed, depending on the Web Interface configuration and security settings) After the changes are completed, restart the user device. For more information, refer to How to Manually Install and Configure Citrix Receiver for Pass-Through Authentication. Note: Smart card, Kerberos and Local user name and password policies are inter-dependent.The order of configuration is important. We recommend to first disable unwanted policies, and then enable the policies you require. Carefully validate the result.
Sample usage	CitrixReceiver.exe /includeSSON

Option	ENABLE_SSON={Yes | No}
Description	Enable single sign on when /includeSSON is specified. The default value is Yes. Enables single sign on when /includeSSON is also specified. This property is required for smart card single sign on. Note that users must log off and log back on to their devices after an installation with single sign-on authentication enabled. Requires administrator rights.
Sample usage	CitrixReceiver.exe /ENABLE_SSON=Yes

Option	/EnableTracing={true | false}
Description	This feature is enabled by default. Use this property to explicitly enable or disable the always-on tracing feature. Always-on tracing helps collect critical logs around connection time. These logs can prove userful when troubleshooting intermittent connetivity issues. The Always-on tracing policy overrides this setting. By default, Always-on Tracing logs files are present in *C:\Users\<username>\AppData\Local\Temp\CTXReceiverLogs\<sessionID>\xxx.et*l directory.
Sample usage	CitrixReceiver.exe /EnableTracing=true

Option	/EnableCEIP={true | false}
Description	When you enable participation in the Citrix Customer Experience Improvement Program (CEIP), anonymous statistics and usage information are sent to Citrix to help Citrix improve the quality and performance of its products.
Sample usage	CitrixReceiver.exe /EnableCEIP=true

Option	INSTALLDIR=<Installation Directory>
Description	Specifies the installation path, where Installation Directory is the location where most of the Citrix Receiver software will be installed. The default value is C:\Program Files\Citrix\Receiver. The following Receiver components are installed in the C:\Program Files\Citrix path: Authentication Manager, Citrix Receiver, and the Self-Service plug-in. If you use this option and specify an Installation directory, you must install RIInstaller.msi in the installation directory\Receiver directory and the other .msi files in the installation directory.
Sample usage	CitrixReceiver.exe INSTALLDIR=c:\Citrix\Test

Option	CLIENT_NAME=<*ClientName*>

Description	Specifies the client name, where ClientName is the name used to identify the user device to the server farm. The default value is %COMPUTERNAME%
Sample usage	CitrixReceiver.exe CLIENT_NAME=%COMPUTERNAME%.

Option	ENABLE_CLIENT_NAME=Yes | No
Description	The dynamic client name feature allows the client name to be the same as the computer name. When users change their computer name, the client name changes to match. Defaults to Yes. To disable dynamic client name support, set this property to No and specify a value for the CLIENT_NAME property.
Sample usage	CitrixReceiver.exe DYNAMIC_NAME=Yes

Option	ADDLOCAL=<feature... ,>
Description	Installs one or more of the specified components. When specifying multiple parameters, separate each parameter with a comma and without spaces. The names are case sensitive. If you do not specify this parameter, all components are installed by default. Note: ReceiverInside and ICA_Client are prerequisites for all other components and must be installed. Note:When ADDLOCAL is not specified, except SSON all the other default components gets installed. Components include: • ReceiverInside – Installs the Citrix Receiver experience (required component for Receiver operation). • ICA_Client – Installs the standard Citrix Receiver (required component for Receiver operation). • WebHelper – Installs the WebHelper component. This component retrieves the ICA file from Storefront and passes it to the HDX Engine. In addition, if verifies environment parameters and shares them with Storefront (similar to ICO client detection). • SSON – Installs single sign on. Requires administrator rights. • AM – Installs the Authentication Manager. • SELFSERVICE – Installs the Self-Service Plug-in. The AM value must be specified on the command line and .NET 3.5 Service Pack 1 must be installed on the user device. The Self-Service Plug-in is not available for Windows Thin PC devices, which do not support .NET 3.5. • For information on scripting the Self-Service Plug-in (SSP), and a list of parameters available in Receiver for Windows 4.2 and later, see http://support.citrix.com/article/CTX200337. • The Self-Service Plug-in allows users to access virtual desktops and applications from the Receiver window or from a command line, as described in later in this section in To launch a virtual desktop or application from a command line.

	• USB – Installs USB support. Requires administrator rights. • DesktopViewer – Installs the Desktop Viewer. • Flash – Installs HDX media stream for Flash. • Vd3d – Enables the Windows Aero experience (for operating systems that support it).
Sample usage	CitrixReceiver.exe ADDLOCAL=ReceiverInside, ICA_Client, SSON

Option	ALLOWADDSTORE={N | S | A}
Description	Specifies whether users can add and remove stores not configured through Merchandising Server deliveries; users can enable or disable stores configured through Merchandising Server deliveries, but they cannot remove these stores or change the names or the URLs.) Defaults to S. Options include: • N – Never allow users to add or remove their own store. • S – Allow users to add or remove secure stores only (configured with HTTPS). • A – Allow users to add or remove both secure stores (HTTPS) and non-secure stores (HTTP). Not applicable if Citrix Receiver is installed per user. You can also control this feature by updating the registry key HKLM\Software\[Wow6432Node\]Citrix\Dazzle\AllowAddStore. Note: Only secure (HTTPS) stores are allowed by default and are recommended for production environments. For test environments, you can use HTTP store connections through the following configuration: 1. Set HKLM\Software\[Wow6432Node\]Citrix\Dazzle\AllowAddStore to A to allow users to add non-secure stores. 2. Set HKLM\Software\[Wow6432Node\]Citrix\Dazzle\AllowSavePwd to A to allow users to save their passwords for non-secure stores. 3. To enable the addition of a store that is configured in StoreFront with a TransportType of HTTP, add to HKLM\Software\[Wow6432Node\]Citrix\AuthManager the value ConnectionSecurityMode (REG_SZ type) and set it to Any. 4. Exit and restart Citrix Receiver.
Sample usage	CitrixReceiver.exe ALLOWADDSTORE=N

Option	ALLOWSAVEPWD={N | S | A}
	Specifies whether users can add and remove stores not configured through Merchandising Server deliveries; users can enable or disable stores configured through Merchandising Server deliveries, but they

Description	cannot remove these stores or change the names or the URLs.) Defaults to S. Options include: • N – Never allow users to save their passwords. • S – Allow users to save passwords for secure stores only (configured with HTTPS). • A – Allow users to save passwords for both secure stores (HTTPS) and non-secure stores (HTTPS) and non-secure stores (HTTP). You can also control this feature by updating the registry key HKLM\Software\[Wow6432Node]\Citrix\Dazzle\AllowSavePwd. Note: The following registry key must be added manually if AllowSavePwd does not work: • Key for 32bit OS cilent: HKLM\Software\Citrix\AuthManager • Key for 64bit OS client: HKLM\Software\wow6432node\Citrix\AuthManager • Type: REG_SZ • Value: never - never allow users to save their passwords. secureonly - allow users to save passwords for secure stores only (configured with HTTPS). always - allow users to save passwords for both secure stores (HTTPS) and non-secure stores (HTTP).
Sample usage	CitrixReceiver.exe ALLOWSAVEPWD=N

Option	AM_CERTIFICATESELECTIONMODE={Prompt | SmartCardDefault | LatestExpiry}
Description	Use this option to select a certificate.The default value is Prompt, which prompts the user to choose a certificate from a list. Change this property to choose the default certificate (per the smart card provider) or the certificate with the latest expiry date. If there are no valid logon certificates, the user is notified, and given the option to use an alternate logon method if available. You can also control this feature by updating the registry key HKCU or HKLM\Software\[Wow6432Node\]Citrix\AuthManager:CertificateSelectionMode={ Prompt | SmartCardDefault | LatestExpiry }. Values defined in HKCU take precedence over values in HKLM to best assist the user in selecting a certificate.
Sample usage	CitrixReceiver.exe AM_CERTIFICATESELECTIONMODE=Prompt

Option	AM_SMARTCARDPINENTRY=CSP
Description	Use CSP components to manage Smart Card PIN entry. By default, the PIN prompts presented to users are provided by Citrix Receiver rather than the smart card Cryptographic Service Provider (CSP). Receiver prompts users to enter a PIN when required and then passes the PIN to the smart card CSP. Specify this

	property to use the CSP components to manage the PIN entry, including the prompt for a PIN.
Sample usage	CitrixReceiver.exe AM_SMARTCARDPINENTRY=CSP

Option	ENABLE_KERBEROS={Yes | No}
Description	The default value is No. Specifies whether the HDX engine should use Kerberos authentication and applies only when single sign-on (pass-through) authentication is enabled. For more information, see Configure domain pass-through authentication with Kerberos.
Sample usage	CitrixReceiver.exe ENABLE_KERBEROS=No

Option	LEGACYFTAICONS={False | True}
Description	Use this option to display Legacy FTA icons. The default value is False. Specifies whether or not application icons are displayed for documents that have file type associations with subscribed applications. When the argument is set to false, Windows generates icons for documents that do not have a specific icon assigned to them. The icons generated by Windows consist of a generic document icon overlaid with a smaller version of the application icon. Citrix recommends enabling this option if you plan to deliver Microsoft Office applications to users running Windows 7.
Sample usage	CitrixReceiver.exe LEGACYFTAICONS=False

Option	ENABLEPRELAUNCH={False | True}
Description	The default value is False. For information about session pre-launch, refer to Reduce application launch time.
Sample usage	CitrixReceiver.exe ENABLEPRELAUNCH=False

Option	STARTMENUDIR={Directory Name}

Description	By default, applications appear under Start > All Programs. You can specify the relative path under the programs folder to contain the shortcuts to subscribed applications. For example, to place shortcuts under Start > All Programs > Receiver, specify STARTMENUDIR=\Receiver\. Users can change the folder name or move the folder at any time. You can also control this feature through a registry key: Create the entry REG_SZ for StartMenuDir and give it the value "\RelativePath". Location: HKLM\Software\[Wow6432Node\]Citrix\Dazzle HKCU\Software\Citrix\Dazzle For applications published through XenApp with a Client applications folder (also referred to as a Program Neighborhood folder) specified, you can specify that the client applications folder is to be appended to the shortcuts path as follows: Create the entry REG_SZ for UseCategoryAsStartMenuPath and give it the value "true". Use the same registry locations as noted above. Note: Windows 8/8.1 does not allow the creation of nested folders within the Start Menu. Applications will be displayed individually or under the root folder but not within Category sub folders defined with XenApp. Examples ● If client application folder is \office, UseCategoryAsStartMenuPath is true, and no StartMenuDiris specified, shortcuts are placed under Start > All Programs > Office. ● If Client applications folder is \Office, UseCategoryAsStartMenuPath is true, and StartMenuDir is \Receiver, shortcuts are placed under Start > All Programs > Receiver > Office. Changes made to these settings have no impact on shortcuts that are already created. To move shortcuts, you must uninstall and re-install the applications.
Sample usage	CitrixReceiver.exe STARTMENUDIR=\Office

Option	STOREx="storename;http[s]://servername.domain/IISLocation/discovery;[On | Off] ; [storedescription]" [STOREy="..."]
Description	Use this option to specify the Store name. Specifies up to 10 stores to use with Citrix Receiver. Values: ● x and y – Integers 0 through 9. ● storename – Defaults to store. This must match the name configured on the StoreFront Server. ● servername.domain – The fully qualified domain name of the server hosting the store. ● IISLocation – the path to the store within IIS. The store URL must match the URL in StoreFront provisioning files. The store URLs are of the form "/Citrix/store/discovery". To obtain the URL, export a provisioning file from StoreFront, open it in notepad and copy the URL from the <Address> element. ● On | Off – The optional Off configuration setting enables you to deliver disabled stores, giving users

	the choice of whether or not they access them. When the store status is not specified, the default setting is On. • storedescription – An optional description of the store, such as HR App Store. Note: In this release, it is important to include "/discovery" in the store URL for successful pass-through authentication.
Sample usage	CitrixReceiver.exe STORE0="Store;https://test.xx.com/Citrix/Store/Discovery"

Option	ALLOW_CLIENTHOSTEDAPPSURL=1
Description	Enables the URL redirection feature on user devices. Requires administrator rights. Requires that Citrix Receiver is installed for All Users. For information about URL redirection, refer to Local App Access and its sub-topics in the XenDesktop 7 documentation.
Sample usage	CitrixReceiver.exe ALLOW_CLIENTHOSTEDAPPSURL=1

Option	SELFSERVICEMODE={False | True}
Description	The default value is True. When the administrator sets the SelfServiceMode flag to false, the user no longer has access to the self service Citrix Receiver user interface. Instead, they can access subscribed apps from the Start menu and via desktop shortcuts - known as "shortcut-only mode".
Sample usage	CitrixReceiver.exe SELFSERVICEMODE=False

Option	DESKTOPDIR=<Directory Name>
Description	Brings all shortcuts into a single folder. CategoryPath is supported for desktop shortcuts. Note: When using the DESKTOPDIR option, set the PutShortcutsOnDesktop key to True.
Sample usage	CitrixReceiver.exe DESKTOPDIR=\Office

Option	/rcu
Description	Allows you to upgrade from an unsupported version to the latest version of Citrix Receiver.
Sample usage	CitrixReceiver.exe /rcu

When installation finishes, a dialog appears indicating a successful installation, followed by the **Add Account** screen. For a first time user, the Add Account dialog requires you to enter an email or server address to setup an account.

> ### Note
>
> If a common store has not been defined by the STOREx argument above, or by a Group Policy Object, then users who have not previously logged on to a computer where Citrix Receiver is installed, may see the Add Account dialog. To suppress this dialog, create a REG_DWORD value EnableX1FTU in the key HKLM\Software\Citrix\Receiver and set the value to 0.

If there is a problem with the installation, search in the user's %TEMP%/CTXReceiverInstallLogs directory for the logs with the prefix CtxInstall- or TrolleyExpress- . For example:

CtxInstall-ICAWebWrapper-20141114-134516.log

TrolleyExpress-20090807-123456.log

Examples of a command-line installation

To install all components silently and specify two application stores:

CitrixReceiver.exe /silent STORE0="AppStore;https://testserver.net/Citrix/MyStore/discovery;on;HR App Store" STORE1="BackUpAppStore;https://testserver.net/Citrix/MyBackupStore/discovery;on;Backup HR App Store"

To specify single sign-on (pass-through authentication) and add a store that points to a XenApp Services URL:

CitrixReceiver.exe /INCLUDESSON /STORE0="PNAgent;https://testserver.net/Citrix/PNAgent/config.xml;on;My PNAgent Site"

Citrix Receiver creates a stub application for each subscribed desktop or application. You can use a stub application to launch a virtual desktop or application from the command line. Stub applications are located in %appdata%\Citrix\SelfService. The file name for a stub application is the Display Name of the application, with the spaces removed. For example, the stub application file name for Internet Explorer is InternetExplorer.exe.

Deploy Receiver for Windows using Active Directory and sample startup scripts

May 08, 2015

You can use Active Directory Group Policy scripts to pre-deploy Receiver on systems based on your Active Directory organizational structure. Citrix recommends using the scripts rather than extracting the .msi files because the scripts allow for a single point for installation, upgrade, and uninstall, they consolidate the Citrix entries in Programs and Features, and make it easier to detect the version of Receiver that is deployed. Use the Scripts setting in the Group Policy Management Console (GPMC) under Computer Configuration or User Configuration. For general information about startup scripts, refer to Microsoft documentation.

Citrix includes sample per-computer startup scripts to install and uninstall CitrixReceiver.exe. The scripts are located on recent XenApp and XenDesktop media in the Citrix Receiver and Plug-ins\Windows\Receiver\Startup_Logon_Scripts folder.

- CheckAndDeployReceiverPerMachineStartupScript.bat
- CheckAndRemoveReceiverPerMachineStartupScript.bat

When the scripts are executed during Startup or Shutdown of an Active Directory Group Policy, custom configuration files might be created in the Default User profile of a system. If not removed, these configuration files can prevent some users from accessing the Receiver logs directory. The Citrix sample scripts include functionality to properly remove these configuration files.

To use the startup scripts to deploy Receiver with Active Directory

1. Create the Organizational Unit (OU) for each script.
2. Create a Group Policy Object (GPO) for the newly created OU.

Modify the scripts by editing these parameters in the header section of each file:

- **Current Version of package**. The specified version number is validated and if it is not present, the deployment proceeds. For example, set DesiredVersion= 3.3.0.XXXX to exactly match the version specified. If you specify a partial version, for example 3.3.0, it matches any version with that prefix (3.3.0.1111, 3.3.0.7777, and so forth).
- **Package Location/Deployment directory**. This specifies the network share containing the packages and is not authenticated by the script. The shared folder must have Read permission for EVERYONE.
- **Script Logging Directory**. This specifies the network share where the install logs are copied and is not authenticated by the script. The shared folder must have Read and Write permissions for EVERYONE.
- **Package Installer Command Line Options**. These command line options are passed to the installer. For the command line syntax, see Configure and install Receiver for Windows using command-line parameters.

1. Open the Group Policy Management Console.
2. Select Computer Configuration > Policies > Windows Settings > Scripts (Startup/Shutdown).
3. In the right-hand pane of the Group Policy Management Console, select Startup.
4. In the Properties menu, click Show Files, copy the appropriate script to the folder displayed, and then close the window.
5. In the Properties menu, click Add and use Browse to find and add the newly created script.

1. Move the user devices designated to receive this deployment to the OU you created.
2. Reboot the user device and log on as any user.
3. Verify that Program and Features (Add or Remove Programs in previous OS versions) contains the newly installed package.

1. Move the user devices designated for the removal to the OU you created.
2. Reboot the user device and log on as any user.
3. Verify that Program and Features (Add or Remove Programs in previous OS versions) removed the previously installed package.

Citrix recommends using per-computer startup scripts. However, for situations where you require Receiver per-user deployments, two Receiver per-user scripts are included on the XenDesktop and XenApp media in the Citrix Receiver and Plug-ins\Windows\Receiver\Startup_Logon_Scripts folder.

- CheckAndDeployReceiverPerUserLogonScript.bat
- CheckAndRemoveReceiverPerUserLogonScript.bat

To set up the per-user startup scripts

1. Open the Group Policy Management Console.
2. Select User Configuration > Policies > Windows Settings > Scripts.
3. In the right-hand pane of the Group Policy Management Console, select Logon
4. In the Logon Properties menu, click Show Files, copy the appropriate script to the folder displayed, and then close the window.
5. In the Logon Properties menu, click Add and use Browse to find and add the newly created script.

To deploy Receiver per-user

1. Move the users designated to receive this deployment to the OU you created.
2. Reboot the user device and log on as the specified user.
3. Verify that Program and Features (Add or Remove Programs in previous OS versions) contains the newly installed package.

To remove Receiver per-user

1. Move the users designated for the removal to the OU you created.
2. Reboot the user device and log on as the specified user.
3. Verify that Program and Features (Add or Remove Programs in previous OS versions) removed the previously installed package.

Deploy Receiver for Windows from Receiver for Web

May 08, 2015

You can deploy Receiver from Receiver for Web to ensure that users have it installed before they try to connect to an application from a browser. Receiver for Web sites enable users to access StoreFront stores through a web page. If the Receiver for Web site detects that a user does not have a compatible version of Receiver, the user is prompted to download and install Receiver. For more information, refer to Receiver for Web sites in the StoreFront documentation.

Email-based account discovery does not apply when Receiver is deployed from Receiver for Web. If email-based account discovery is configured and a first-time user installs Receiver from Citrix.com, Receiver prompts the user for an email or server address. Entering an email address results in the error message "Your email cannot be used to add an account." Use the following configuration to prompt for the server address only.

1. Download CitrixReceiver.exe to your local computer.
2. Rename CitrixReceiver.exe to CitrixReceiverWeb.exe.
   Important: The name CitrixReceiverWeb.exe is case sensitive.
3. Deploy the renamed executable using your regular deployment method. If you use StoreFront, refer to Configure Receiver for Web sites using the configuration files in the StoreFront documentation.

Deploy Receiver for Windows from a Web Interface logon screen

May 08, 2015

This feature is available only for XenDesktop and XenApp releases that support Web Interface.

You can deploy Receiver from a web page to ensure that users have it installed before they try to use the Web Interface. The Web Interface provides a client detection and deployment process that detects which Citrix clients can be deployed within the user's environment and then guides them through the deployment procedure.

You can configure the client detection and deployment process to run automatically when users access a XenApp website. If the Web Interface detects that a user does not have compatible version of Receiver, the user is prompted to download and install Receiver.

For more information, refer to Configuring Client Deployment in the Web Interface documentation.

Email-based account discovery does not apply when Receiver is deployed from Web Interface. If email-based account discovery is configured and a first-time user installs Receiver from Citrix.com, Receiver prompts the user for an email or server address. Entering an email address results in the error message "Your email cannot be used to add an account." Use the following configuration to prompt for the server address only.

1. Download CitrixReceiver.exe to your local computer.
2. Rename CitrixReceiver.exe to CitrixReceiverWeb.exe.
   Important: The name CitrixReceiverWeb.exe is case sensitive.
3. Specify the changed filename in the ClientIcaWin32 parameter in the configuration files for your XenApp websites.
   To use the client detection and deployment process, the Receiver installation files must be available on the Web Interface server. By default, the Web Interface assumes that the file names of the Receiver installation files are the same as the files supplied on the XenApp or XenDesktop installation media.
4. Add the sites from which the CitrixReceiverWeb.exe file is downloaded to the Trusted Sites zone.
5. Deploy the renamed executable using your regular deployment method.

Configure Citrix Receiver for Windows

Jul 27, 2016

When using Receiver for Windows software, the following configuration steps allow users to access their hosted applications and desktops:

- Configure your application delivery and Configure your XenDesktop environment. Ensure your XenApp environment is configured correctly. Understand your options and provide meaningful application descriptions for your users.
- Configure self-service mode by adding a StoreFront account to Receiver. This mode allows your users to subscribe to applications from the Receiver user interface.
- Configure shortcut only mode, which includes:
  - using a Group Policy Object template file to customize shortcuts.
  - using registry keys for shortcut customization.
  - configuring shortcuts based on StoreFront account settings
- Provide users with account information. Provide users with the information they need to set up access to accounts hosting their virtual desktops and applications. In some environments, users must manually set up access to those accounts.

- If you have users who connect from outside the internal network (for example, users who connect from the Internet or from remote locations), configure authentication through NetScaler Gateway. For more information see NetScaler Gateway.

Configure your application delivery

When delivering applications with XenDesktop or XenApp, consider the following options to enhance the experience for your users when they access their applications:

Web access mode

Without any configuration, Citrix Receiver for Windows provides web access mode; browser-based access to applications and desktops. Users simply open a browser to a Receiver for Web or Web Interface site and select and use the applications that they want. In web access mode, no app shortcuts are placed in the App Folder on your user's device.

Self-service mode

By adding a StoreFront or a Web Interface Services Site account to Receiver for Windows, you can configure self-service mode, which enables your users to subscribe to applications through Receiver. This enhanced user experience is similar to that of a mobile app store. In self-service mode you can configure mandatory, auto-provisioned, and featured app keyword settings as needed. When one of your users selects an application, a shortcut to that application is placed in the App Folder on the user device.

When accessing a StoreFront 3.0 site, your users see the Receiver user experience. For more information about the Receiver user experience, see Receiver and StoreFront 3.0 Technology Preview.

When publishing applications on your XenApp farms, to enhance the experience for users accessing those applications through StoreFront stores, ensure that you include meaningful descriptions for published applications. The descriptions are visible to your users through Citrix Receiver.

As mentioned previously, by adding a StoreFront account to Receiver or configuring Receiver to point to a Web Interface XenApp Services site, you can configure self-service mode, which allows users to subscribe to applications from the Receiver user interface. This enhanced user experience is similar to that of a mobile app store.

In self service mode you can configure mandatory, auto-provisioned and featured app keyword settings as needed:

- To automatically subscribe all users of a store to an application, append the string KEYWORDS:Auto to the description you provide when you publish the application in XenApp. When users log on to the store, the application is automatically provisioned without the need for users to manually subscribe to the application.
- To advertise applications to users or make commonly used applications easier to find by listing them in the Receiver Featured list, append the string KEYWORDS:Featured to the application description.

For more information, see the StoreFront documentation.

If the Web Interface of your XenApp deployment does not have a XenApp Services site, create a site. The name of the site and how you create the site depends on the version of the Web Interface you have installed. For more information, see the Web Interface documentation.

> **Note**
>
> When launching a session using self service mode, connecting automatically is enabled by default.

With StoreFront, the stores you create consist of services that provide authentication and resource delivery infrastructure for Citrix Receiver. Create stores that enumerate and aggregate desktops and applications from XenDesktop sites and XenApp farms, making these resources available to users.

1. Install and configure StoreFront. For more information, see the StoreFront documentation.

   Note: For administrators who need more control, Citrix provides a template you can use to create a download site for Receiver.

Configuring application delivery

Aug 19, 2016

When delivering applications with XenDesktop or XenApp, consider the following options to enhance the experience for users when they access their applications:

- Web Access Mode - Without any configuration, Receiver for Windows 4.4 provides browser-based access to applications and desktops. Users simply open a browser to a Receiver for Web or Web Interface site to select and use the applications that they want. In this mode, no shortcuts are placed on the user's desktop.
- Self Service Mode - By simply adding a StoreFront account to Receiver or configuring Receiver to point to a StoreFront site, you can configure *self service mode*, which allows users to subscribe to applications from the Receiver user interface. This enhanced user experience is similar to that of a mobile app store. In self service mode you can configure mandatory, auto-provisioned and featured app keyword settings as needed.

Note: By default, Receiver for Windows 4.4 allows users to select the applications they want to display in their Start menu.

- App shortcut-only mode - As a Receiver administrator, you can configure Receiver for Windows 4.4 to automatically place application and desktop shortcuts directly in the Start menu or on the desktop in a similar way that Receiver for Windows 3.4 Enterprise places them. The new *shortcut only* mode allows users to find all their published apps within the familiar Windows navigation schema where users would expect to find them.

For information on delivering applications using XenApp and XenDesktop 7 refer to Create a Delivery Group application.

Note: Include meaningful descriptions for applications in a Delivery Group. Descriptions are visible to Receiver users when using Web access or self service mode.
For more information on how to configure shortcuts in the Start menu or on the desktop, see Configure Shortcut Only Mode in Citrix Product Documentation.

By simply adding a StoreFront account to Receiver or configuring Receiver to point to a StoreFront site, you can configure *self-service mode*, which allows users to subscribe to applications from the Receiver user interface. This enhanced user experience is similar to that of a mobile app store.

Note: By default, Receiver for Windows 4.4 allows users to select the applications they want to display in their Start menu.
In self service mode you can configure mandatory, auto-provisioned and featured app keyword settings as needed.

Append keywords to the descriptions you provide for delivery group applications:

- To make an individual app mandatory, so that it cannot be removed from Receiver for Windows, append the string KEYWORDS:Mandatory to the application description. There is no Remove option for users to unsubscribe to mandatory apps.
- To automatically subscribe all users of a store to an application, append the string KEYWORDS:Auto to the description. When users log on to the store, the application is automatically provisioned without users needing to manually subscribe to the application.
- To advertise applications to users or to make commonly used applications easier to find by listing them in the Receiver Featured list, append the string KEYWORDS:Featured to the application description.

Start menu integration and desktop shortcut only mode lets you bring published application **shortcuts** into the Windows Start menu and onto the desktop. In this way, users do not have to subscribe to applications from the Receiver user interface. Start menu integration and desktop shortcut management provides a seamless desktop experience for groups of users, who need access to a core set of applications in a consistent way.

As a Receiver administrator, you use a command-line install flags, GPOs, account services, or registry settings to disable the usual "self service" Receiver interface and replace it with a preconfigured Start menu. The flag is called SelfServiceMode and is set to true by default. When the administrator sets the SelfServiceMode flag to false, the user no longer has access to the self service Receiver user interface. Instead, they can access subscribed apps from the Start menu and via desktop shortcuts - referred to here as **shortcut-only mode**.

Users and administrators can use a number of registry settings to customize the way shortcuts are set up. See Using registry keys to customize app shortcut locations.

Working with shortcuts

- Users cannot remove apps. All apps are mandatory when working with the SelfServiceMode flag set to false (shortcut-only mode). If the user removes a shortcut icon from the desktop, the icon comes back when the user selects Refresh from the Receiver system tray icon.
- Users can configure only one store. The Account and Preferences options are not available. This is to prevent the user from configuring additional stores. The administrator can give a user special privileges to add more than one account using the Group Policy Object template, or by manually adding a registry key (HideEditStoresDialog) on the client machine. When the administrator gives a user this privilege, the user has a Preferences option in the system tray icon, where they can add and remove accounts.
- Users cannot remove apps via the Windows Control Panel.
- You can add desktop shortcuts via a customizable registry setting. Desktop shortcuts are not added by default. After you make any changes to the registry settings, Receiver must be restarted.
- Shortcuts are created in the Start menu with a category path as the default, UseCategoryAsStartMenuPath.

Note: Windows 8/8.1 does not allow the creation of nested folders within the Start Menu. Applications will be displayed individually or under the root folder but not within Category sub folders defined with XenApp.

- You can add a flag [/DESKTOPDIR="Dir_name"] during installation to bring all shortcuts into a single folder. CategoryPath is supported for desktop shortcuts.
- Auto Re-install Modified Apps is a feature which can be enabled via the registry key AutoReInstallModifiedApps. When AutoReInstallModifiedApps is enabled, any changes to attributes of published apps and desktops on the server are reflected on the client machine. When AutoReInstallModifiedApps is disabled, apps and desktop attributes are not updated and shortcuts are not re-stored on refresh if deleted on the client. By default this AutoReInstallModifiedApps is enabled. See Using registry keys to customize app shortcut locations.

Note: You should make changes to group policy before configuring a store. If at any time you or a user wants to customize the group policies, you or the user must reset Receiver, configure the group policy, and then reconfigure the store.

As an administrator, you can configure shortcuts using group policy.

1. Open the Local Group Policy Editor by running the command gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add, browse to the Receiver Configuration folder and then select receiver.admx (or receiver.adml). For more information on ADMX template, See About ADMX Template Usage
5. Select Open to add the template and then Close to the return to the Group Policy Editor.
6. In the Group Policy Editor, got to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > Self Service.
7. Select Manage SelfServiceMode to enable or disable the self service Receiver user interface.
8. Choose Manage App Shortcut to enable or disable:
   - Shortcuts on Desktop
   - Shortcuts in Start menu
   - Desktop Directory
   - Start menu Directory
   - Category path for Shortcuts
   - Remove apps on logoff
   - Remove apps on exit
9. Choose Allow users to Add/Remove account to give users privileges to add or remove more than one account.

> Note

By default, registry keys use String format.

You can use registry key settings to customize shortcuts. You can set the registry keys at the following locations. Where they apply, they are acted on in the order of preference listed.

Caution: Editing the Registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.
Note: You should make changes to registry keys before configuring a store. If at any time you or a user wants to customize the registry keys, you or the user must reset Receiver, configure the registry keys, and then reconfigure the store.
Registry keys for 32-bit machines

Registry name	Default value	Locations in order of preference
RemoveAppsOnLogoff	False	HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties
RemoveAppsOnExit	False	HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties
PutShortcutsOnDesktop	False	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM \SOFTWARE\Citrix\Dazzle
PutShortcutsInStartMenu	True	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID+\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle
SelfServiceMode	True	HKLM\SOFTWARE\Policies\Citrix\Dazzle

Registry name	Default value	HKLM\SOFTWARE\Citrix\Dazzle Locations in order of preference
UseCategoryAsStartMenuPath	True	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM \SOFTWARE\Citrix\Dazzle
StartMenuDir	"" (empty)	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM \SOFTWARE\Citrix\Dazzle
DesktopDir	"" (empty)	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle
AutoReinstallModifiedApps	True	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle
HideEditStoresDialog	True in SelfServiceMode, and False in NonSelfServiceMode	HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID +

Registry name	Default value	Locations in order of preference
WSCSupported	True	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID +\Properties HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle
WSCReconnectAll	True	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle
WSCReconnectMode	3	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID +\Properties HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE\Citrix\Dazzle
WSCReconnectModeUser	Registry is not created during installation.	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID+\Properties HKLM\SOFTWARE\Policies\Citrix\Dazzle HKLM\SOFTWARE \Citrix\Dazzle

Registry keys for 64-bit machines

Registry name	Default value	Locations in order of preference
RemoveAppsOnLogoff	False	HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties
RemoveAppsOnExit	False	HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle HKCU\Software\Citrix\Dazzle

Registry name	Default value	Locations in order of preference
		HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties
PutShortcutsOnDesktop	False	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM \SOFTWARE\Wow6432Node\Citrix\Dazzle
PutShortcutsInStartMenu	True	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID+\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle
SelfServiceMode	True	HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle
UseCategoryAsStartMenuPath	True	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM \SOFTWARE\Wow6432Node\Citrix\Dazzle
StartMenuDir	"" (empty)	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM \SOFTWARE\Wow6432Node\Citrix\Dazzle
DesktopDir	"" (empty)	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties

Registry name	Default value	Locations in order of preference
		HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle
AutoReinstallModifiedApps	True	HKCU\Software\Citrix\Receiver\SR\Store\+StoreID +\Properties HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKCU\Software\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle
HideEditStoresDialog	True in SelfServiceMode, and False in NonSelfServiceMode	HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties
WSCSupported	True	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID +\Properties HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle
WSCReconnectAll	True	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID + \Properties HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle
WSCReconnectMode	3	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID +\Properties HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle

Registry name	Default value	Locations in order of preference
WSCReconnectModeUser	Registry is not created during installation.	HKCU\Software\Citrix\Dazzle HKCU\Software\Citrix\Receiver\SR\Store\" + primaryStoreID+\Properties HKLM\SOFTWARE\Wow6432Node\Policies\Citrix\Dazzle HKLM\SOFTWARE\Wow6432Node\Citrix\Dazzle

You can set up shortcuts in the Start menu and on the desktop from the StoreFront site. The following settings can be added in the web.config file in C:\inetpub\wwwroot\Citrix\Roaming in the <annotatedServices> section:

- To put shortcuts on the desktop, use PutShortcutsOnDesktop. Settings: "true" or "false" (default is false).
- To put shortcuts in the Start menu, use PutShortcutsInStartMenu. Settings: "true" or "false" (default is true).
- To use the category path in the Start menu, use UseCategoryAsStartMenuPath. Settings: "true" or "false" (default is true).

Note: Windows 8/8.1 does not allow the creation of nested folders within the Start Menu. Applications will be displayed individually or under the root folder but not within Category sub folders defined with XenApp.

- To set a single directory for all shortcuts in the Start menu, use StartMenuDir. Setting: String value, being the name of the folder into which shortcuts are written.
- To reinstall modified apps, use AutoReinstallModifiedApps. Settings: "true" or "false" (default is true).
- To show a single directory for all shortcuts on the desktop, use DesktopDir. Setting: String value, being the name of the folder into which shortcuts are written.
- To not create an entry on the clients 'add/remove programs', use DontCreateAddRemoveEntry. Settings: "true" or "false" (default is false).
- To remove shortcuts and Receiver icon for an application that was previously available from the Store but now is not available, use SilentlyUninstallRemovedResources. Settings: "true" or "false" (default is false).

In the web.config file, the changes should be added in the XML section for the account. Find this section by locating the opening tab:

<account id=... name="Store"
The section ends with the </account> tag.
Before the end of the account section, in the first properties section:

<properties> <clear /> </properties>
Properties can be added into this section after the <clear /> tag, one per line, giving the name and value. For example:

<property name="PutShortcutsOnDesktop" value="True" />
Note: Property elements added before the <clear /> tag may invalidate them. Removing the <clear /> tag when adding a property name and value is optional.
An extended example for this section is:

<properties> <property name="PutShortcutsOnDesktop" value="True" /> <property name="DesktopDir" value="My Apps Folder" /> </properties>
Important: In multiple server deployments, use only one server at a time to make changes to the configuration of the server group. Ensure that the Citrix StoreFront management console is not running on any of the other servers in the deployment. Once complete, propagate your configuration changes to the server group, so that the other servers in the deployment are updated.

Receiver can be configured to automatically place application and desktop shortcuts directly in the Start Menu or on the desktop. This functionality was similar to previously released versions of Receiver, however, release 4.4 introduced the ability to control app shortcut placement using XenApp per app settings. This functionality is useful in environments with a handful of applications that need to be displayed in consistent locations.

If you want to set the location of shortcuts so every user finds them in the same place use XenApp per App Settings:

If you want per-app settings to determine where applications are placed independently of whether in self service mode or Start Menu mode..	configure Receiver with **PutShortcutsInStartMenu=false** and enable per

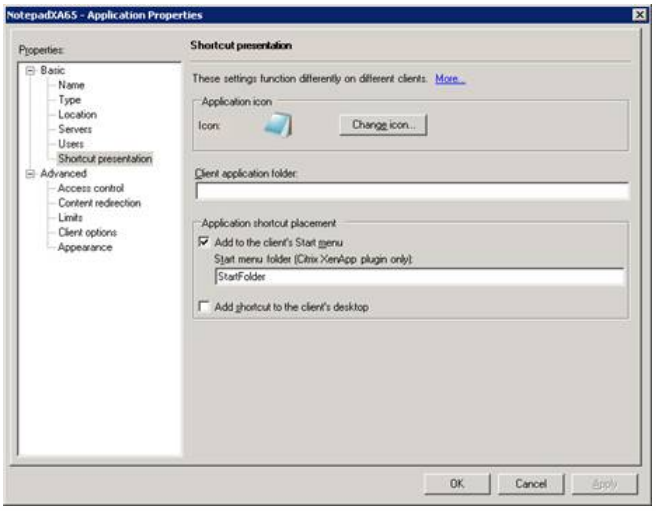
	app settings. Note: This setting applies to the Web interface site only.

Note: The **PutShortcutsInStartMenu=false** setting applies to both XenApp 6.5 XenDesktop 7.x.

Configure per app settings in XenApp 6.5

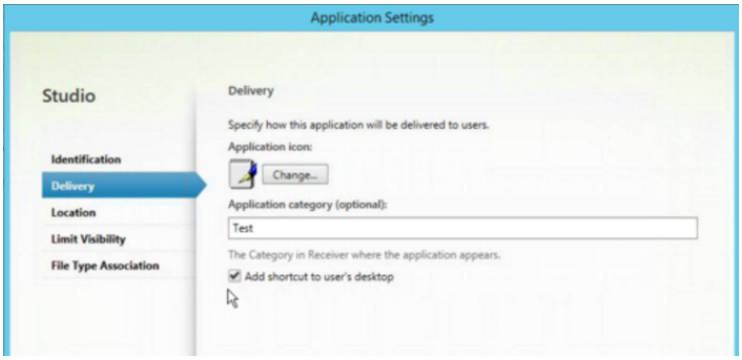
To configure a per app publishing shortcut in XenApp 6.5:

1. In the XenApp Application Properties screen, expand Basic properties.
2. Select the Shortcut presentation option.
3. In the Application shortcut placement portion of the Shortcut presentation screen, select the Add to the client's Start menu checkbox. After selecting the checkbox, enter the name of the folder where you want to place the shortcut. If you do not specify a folder name, XenApp places the shortcut in the Start Menu without placing it in a folder.
4. Select the Add shortcut to the client's desktop to include the shortcut on a client machine's desktop.
5. Click Apply.
6. Click OK.



To configure a per app publishing shortcut in XenApp 7.6:

1. In Citrix Studio, locate the Application Settings screen.
2. In the Application Settings screen, select Delivery. Using this screen, you can specify how applications are delivered to users.
3. Select the appropriate icon for the application. Click Change to browse to the location of the desired icon.
4. In the Application category field, optionally specify the category in Receiver where the application appears. For example, if you are adding shortcuts to Microsoft Office applications, enter Microsoft Office.
5. Select the Add shortcut to user's desktop checkbox.
6. Click OK.



If users experience delays in app enumeration at each logon, or if there is a need to digitally sign application stubs, Receiver provides functionality to copy the .EXE stubs from a network share.

This functionality involves a number of steps:

1. Create the application stubs on the client machine.
2. Copy the application stubs to a common location accessible from a network share.
3. If necessary, prepare a white list (or, sign the stubs with an Enterprise certificate.
4. Add a registry key to enable Receiver to create the stubs by copying them from the network share.

If RemoveappsOnLogoff and RemoveAppsonExit are enabled, and users are experiencing delays in app enumeration at every logon, use the following workaround to reduce the delays:

1. Use regedit to add HKCU\Software\Citrix\Dazzle /v ReuseStubs /t REG_SZ /d "true".
2. Use regedit to add HKLM\Software\Citrix\Dazzle /v ReuseStubs /t REG_SZ /d "true". HKCU has preference over HKLM.

Caution: Editing the Registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.
Enable a machine to use pre-created stub executables that are stored on a network share:

1. On a client machine, create stub executables for all of the apps. To accomplish this, add all the applications to the machine using Receiver; Receiver generates the executables.
2. Harvest the stub executables from %APPDATA%\Citrix\SelfService. You only need the .exe files.
3. Copy the executables to a network share.
4. For each client machine that will be locked down, set the following registry keys:
    1. Reg add HKLM\Software\Citrix\Dazzle /v CommonStubDirectory /t REG_SZ /d "\\ShareOne\ReceiverStubs"
    2. Reg add HKLM\Software\Citrix\Dazzle /v
    3. CopyStubsFromCommonStubDirectory /t REG_SZ /d "true". It's also possible to configure these settings on HKCU if you prefer. HKCU has preference over HKLM.
    4. Exit and restart Receiver to test the settings.

This topic provides use cases for app shortcuts.

Allowing users to choose what they want in the Start Menu (Self Service)

If you have dozens (or even hundreds) of apps, it's best to allow users to select which applications they want to favorite and add to the Start Menu:

If you want the user to choose the applications they want in their Start Menu..	configure Receiver in self service mode. In this mode you also configure *auto-provisioned* and *mandatory* app keyword settings as needed.
If you want the user to choose the applications they	configure Receiver without any options and then use per app settings for

want in their Start Menu but also want specific app shortcuts on the desktop..	the few apps that you want on the desktop. Use *auto provisioned* and *mandatory* apps as needed.

No app shortcuts in the Start Menu

If a user has a family computer, you might not need or want app shortcuts at all. In such scenarios, the simplest approach is browser access; install Receiver without any configuration and browse to Receiver for Web and Web interface. You can also configure Receiver for self service access without putting shortcuts anywhere.

If you want to prevent Receiver from putting application shortcuts in the Start Menu automatically..	configure Receiver with PutShortcutsInStartMenu=False. Receiver will not put apps in the Start Menu even in self service mode unless you put them there using per app settings.

All app shortcuts in the Start Menu or on the Desktop

If the user has only a few apps, you can put them all in the Start Menu or all on the desktop, or in a folder on the desktop.

If you want Receiver to put all application shortcuts in the start menu automatically..	configure Receiver with SelfServiceMode =False. All available apps will appear in the Start Menu.
If you want all application shortcuts to put on desktop..	configure Receiver with PutShortcutsOnDesktop = true. All available apps will appear in the desktop.
If you want all shortcuts to be put on the desktop in a folder...	configure Receiver with DesktopDir=Name of the desktop folder where you want applications.

Per app settings in XenApp 6.5 or 7.x

If you want to set the location of shortcuts so every user finds them in the same place use XenApp per App Settings:

If you want per-app settings to determine where applications are placed independently of whether in self service mode or Start Menu mode..	configure Receiver with **PutShortcutsInStartMenu=false** and enable per app settings. Note: This setting applies to the Web interface site only.

Apps in category folders or in specific folders

If you want applications displayed in specific folders use the following options:

If you want the application shortcuts Receiver places in the start menu to be shown in their associated category (folder)..	configure Receiver with UseCategoryAsStartMenuPath=True. Note: Windows 8/8.1 does not allow the creation of nested folders within the Start Menu. Applications will be displayed individually or under the root folder but not within Category sub folders defined with XenApp.
If you want the applications that Receiver puts in the Start menu to be in a specific folder..	configure Receiver with StartMenuDir=the name of the Start Menu folder name.

Remove apps on logoff or exit

If you don't want users to see apps if another user is going to share the end point, you can ensure that apps are removed when the user logs off and exits:

If you want Receiver to remove all apps on logoff..	configure Receiver with RemoveAppsOnLogoff=True.
If you want Receiver to remove apps on exit..	configure Receiver with RemoveAppsOnExit=True.

When configuring local app access applications:

- To specify that a locally installed application should be used instead of an application available in Receiver, append the string KEYWORDS:prefer="pattern". This feature is referred to as Local App Access.
  Before installing an application on a user's computer, Receiver searches for the specified patterns to determine if the application is installed locally. If it is, Receiver subscribes the application and does not create a shortcut. When the user starts the application from the Receiver window, Receiver starts the locally installed (preferred) application.

  If a user uninstalls a preferred application outside of Receiver, the application is unsubscribed during the next Receiver refresh. If a user uninstalls a preferred application from the Receiver window, Receiver unsubscribes the application but does not uninstall it.

  Note: The keyword prefer is applied when Receiver subscribes an application. Adding the keyword after the application is subscribed has no effect.
  You can specify the prefer keyword multiple times for an application. Only one match is needed to apply the keyword to an application. The following patterns can be used in any combination:

  - prefer="ApplicationName"
    The application name pattern matches any application with the specified application name in the shortcut file name. The application name can be a word or a phrase. Quotation marks are required for phrases. Matching is not allowed on partial words or file paths and is case-insensitive. The application name matching pattern is useful for overrides performed manually by an administrator.

KEYWORDS:prefer=	Shortcut under Programs	Matches?
Word	\Microsoft Office\Microsoft **Word** 2010	Yes
"Microsoft Word"	\Microsoft Office**Microsoft Word** 2010	Yes
Console	\McAfee\VirusScan **Console**	Yes
Virus	\McAfee\VirusScan Console	No
McAfee	\McAfee\VirusScan Console	No

KEYWORDS:prefer=	Shortcut under Programs	Matches?

- prefer="\\Folder1\Folder2\...\ApplicationName"
  The absolute path pattern matches the entire shortcut file path plus the entire application name under the Start menu. The Programs folder is a subfolder of the Start menu directory, so you must include it in the absolute path to target an application in that folder. Quotation marks are required if the path contains spaces. The matching is case-sensitive. The absolute path matching pattern is useful for overrides implemented programmatically in XenDesktop.

KEYWORDS:prefer=	Shortcut under Programs	Matches?
"\\Programs\Microsoft Office\Microsoft Word 2010"	**\Programs\Microsoft Office\Microsoft Word 2010**	Yes
"\\Microsoft Office\"	\Programs\Microsoft Office\Microsoft Word 2010	No
"\\Microsoft Word 2010"	\Programs\Microsoft Office\Microsoft Word 2010	No
"\\Programs\Microsoft Word 2010"	**\Programs\Microsoft Word 2010**	Yes

- prefer="\Folder1\Folder2\...\ApplicationName"
  The relative path pattern matches the relative shortcut file path under the Start menu. The relative path provided must contain the application name and can optionally include the folders where the shortcut resides. Matching is successful if the shortcut file path ends with the relative path provided. Quotation marks are required if the path contains spaces. The matching is case-sensitive. The relative path matching pattern is useful for overrides implemented programmatically.

KEYWORDS:prefer=	Shortcut under Programs	Matches?
"\Microsoft Office\Microsoft Word 2010"	**\Microsoft Office\Microsoft Word 2010**	Yes
"\Microsoft Office\"	\Microsoft Office\Microsoft Word 2010	No
"\Microsoft Word 2010"	\Microsoft Office**\Microsoft Word 2010**	Yes
"\Microsoft Word"	\Microsoft Word 2010	No

For information about other keywords, refer to "Additional recommendations" in Optimize the user experience in the StoreFront documentation.

Configure your XenDesktop environment

Jun 13, 2016

The topics in this article describe how to configure USB support, prevent the Desktop Viewer window from dimming, and configure settings for multiple users and devices.

USB support enables users to interact with a wide range of USB devices when connected to a virtual desktop. Users can plug USB devices into their computers and the devices are remoted to their virtual desktop. USB devices available for remoting include flash drives, smartphones, PDAs, printers, scanners, MP3 players, security devices, and tablets. Desktop Viewer users can control whether USB devices are available on the virtual desktop using a preference in the toolbar.

Isochronous features in USB devices, such as webcams, microphones, speakers, and headsets are supported in typical low latency/high speed LAN environments. This allows these devices to interact with packages, such as Microsoft Office Communicator and Skype.

The following types of device are supported directly in a XenDesktop and XenApp session, and so do not use USB support:

- Keyboards
- Mice
- Smart cards

Note: Specialist USB devices (for example, Bloomberg keyboards and 3-D mice) can be configured to use USB support. For information on configuring Bloomberg keyboards, see Configure Bloomberg keyboards. For information on configuring policy rules for other specialist USB devices, see CTX 119722.
By default, certain types of USB devices are not supported for remoting through XenDesktop and XenApp. For example, a user may have a network interface card attached to the system board by internal USB. Remoting this device would not be appropriate. The following types of USB device are not supported by default for use in a XenDesktop session:

- Bluetooth dongles
- Integrated network interface cards
- USB hubs
- USB graphics adaptors

USB devices connected to a hub can be remoted, but the hub itself cannot be remoted.

The following types of USB device are not supported by default for use in a XenApp session:

- Bluetooth dongles
- Integrated network interface cards
- USB hubs
- USB graphics adaptors
- Audio devices
- Mass storage devices

For instructions on modifying the range of USB devices that are available to users, see Update the list of USB devices available for remoting.

For instructions on automatically redirecting specific USB devices, see CTX123015.

How USB support works

When a user plugs in a USB device, it is checked against the USB policy, and, if allowed, remoted to the virtual desktop. If the device is denied by the default policy, it is available only to the local desktop.

When a user plugs in a USB device, a notification appears to inform the user about a new device. The user can decide which USB devices are remoted to the virtual desktop by selecting devices from the list each time they connect. Alternatively, the user can configure USB support so that all USB devices plugged in both before and/or during a session are automatically remoted to the virtual desktop that is in focus.

For mass storage devices only, in addition to USB support, remote access is available through client drive mapping, which you configure through the Citrix Receiver policy Remoting client devices > Client drive mapping. When this policy is applied, the drives on the user device are automatically mapped to drive letters on the virtual desktop when users log on. The drives are displayed as shared folders with mapped drive letters.

The main differences between the two types of remoting policy are:

Feature	Client drive mapping	USB support
Enabled by default	Yes	No
Read-only access configurable	Yes	No
Safe to remove device during a session	No	Yes, if the user clicks Safely Remove Hardware in the notification area

If both Generic USB and the Client drive mapping policies are enabled and a mass storage device is inserted before a session starts, it will be redirected using client drive mapping first, before being considered for redirection through USB support. If it is inserted after a session has started, it will be considered for redirection using USB support before client drive mapping.

Different classes of USB device are allowed by the default USB policy rules.

Although they are on this list, some classes are only available for remoting in XenDesktop and XenApp sessions after additional configuration. These are noted below.

- Audio (Class 01). Includes audio input devices (microphones), audio output devices, and MIDI controllers. Modern audio devices generally use isochronous transfers, which is supported by XenDesktop 4 or later. Audio (Class01) is not applicable to XenApp because these devices are not available for remoting in XenApp using USB support.
  Note: Some specialty devices (for example, VOIP phones) require additional configuration. For instructions on this, see CTX123015.
- Physical Interface Devices(Class 05). These devices are similar to Human Interface Devices (HIDs), but generally provide "real-time" input or feedback and include force feedback joysticks, motion platforms, and force feedback exoskeletons.
- Still Imaging (Class 06). Includes digital cameras and scanners. Digital cameras often support the still imaging class which uses the Picture Transfer Protocol (PTP) or Media Transfer Protocol (MTP) to transfer images to a computer or other

peripheral. Cameras may also appear as mass storage devices and it may be possible to configure a camera to use either class, through setup menus provided by the camera itself.
Note that if a camera appears as a mass storage device, client drive mapping is used and USB support is not required.

- Printers (Class 07). In general most printers are included in this class, although some use vendor-specific protocols (class ff). Multi-function printers may have an internal hub or be composite devices. In both cases the printing element generally uses the Printers class and the scanning or fax element uses another class; for example, Still Imaging.
  Printers normally work appropriately without USB support.

  Note: This class of device (in particular printers with scanning functions) requires additional configuration. For instructions on this, see CTX123015.
- Mass Storage (Class 08). The most common mass storage devices are USB flash drives; others include USB-attached hard drives, CD/DVD drives, and SD/MMC card readers. There are a wide variety of devices with internal storage that also present a mass storage interface; these include media players, digital cameras, and mobile phones. Mass Storage (Class 08) is not applicable to XenApp because these devices are not available for remoting in XenApp using USB support.
  Known subclasses include:
  - 01 Limited flash devices
  - 02 Typically CD/DVD devices (ATAPI/MMC-2)
  - 03 Typically tape devices (QIC-157)
  - 04 Typically floppy disk drives (UFI)
  - 05 Typically floppy disk drives (SFF-8070i)
  - 06 Most mass storage devices use this variant of SCSI

  Mass storage devices can often be accessed through client drive mapping, and so USB support is not required.

  Important: Some viruses are known to propagate actively using all types of mass storage. Carefully consider whether or not there is a business need to permit the use of mass storage devices, either through client drive mapping or USB support.
- Content Security (Class 0d). Content security devices enforce content protection, typically for licensing or digital rights management. This class includes dongles.
- Video (Class 0e). The video class covers devices that are used to manipulate video or video-related material, such as webcams, digital camcorders, analog video converters, some television tuners, and some digital cameras that support video streaming.
  Note: Most video streaming devices use isochronous transfers, which is supported by XenDesktop 4 or later. Some video devices (for example webcams with motion detection) require additional configuration. For instructions on this, see CTX123015.
- Personal Healthcare (Class 0f). These devices include personal healthcare devices such as blood pressure sensors, heart rate monitors, pedometers, pill monitors, and spirometers.
- Application and Vendor Specific (Classes fe and ff). Many devices use vendor specific protocols or protocols not standardized by the USB consortium, and these usually appear as vendor-specific (class ff).

The following different classes of USB device are denied by the default USB policy rules.

- Communications and CDC Control (Classes 02 and 0a). The default USB policy does not allow these devices, because one of the devices may be providing the connection to the virtual desktop itself.
- Human Interface Devices (Class 03). Includes a wide variety of both input and output devices. Typical Human Interface Devices (HIDs) are keyboards, mice, pointing devices, graphic tablets, sensors, game controllers, buttons, and control

functions.
Subclass 01 is known as the "boot interface" class and is used for keyboards and mice.

The default USB policy does not allow USB keyboards (class 03, subclass 01, protocol 1), or USB mice (class 03, subclass 01, protocol 2). This is because most keyboards and mice are handled appropriately without USB support and it is normally necessary to use these devices locally as well remotely when connecting to a virtual desktop.

- USB Hubs (Class 09). USB hubs allow extra devices to be connected to the local computer. It is not necessary to access these devices remotely.
- Smart Card (Class 0b). Smart card readers include contactless and contact smart card readers, and also USB tokens with an embedded smart card-equivalent chip.
  Smart card readers are accessed using smart card remoting and do not require USB support.
- Wireless Controller (Class e0). Some of these devices may be providing critical network access, or connecting critical peripherals, such as Bluetooth keyboards or mice.
  The default USB policy does not allow these devices. However, there may be particular devices to which it is appropriate to provide access using USB support.
- **Miscellaneous network devices (Class ef, subclass 04)**. Some of these devices may be providing critical network access. The default USB policy does not allow these devices. However, there may be particular devices to which it is appropriate to provide access using USB support.

You can update the range of USB devices available for remoting to desktops by editing the file icaclient_usb.adm. This allows you to make changes to the Receiver using Group Policy. The file is located in the following installed folder:

<root drive>:\Program Files\Citrix\ICA Client\Configuration\en

Alternatively, you can edit the registry on each user device, adding the following registry key:

HKLM\SOFTWARE\Policies\Citrix\ICA Client\GenericUSB Type=String Name="DeviceRules" Value=

Caution: Editing the Registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.
The product default rules are stored in:

HKLM\SOFTWARE\Citrix\ICA Client\GenericUSB Type=MultiSz Name="DeviceRules" Value=

Do not edit the product default rules.

For details of the rules and their syntax, see http://support.citrix.com/article/ctx119722/.

Bloomberg keyboards are supported by XenDesktop and XenApp sessions (but not other USB keyboards). The required components are installed automatically when the plug-in is installed, but you must enable this feature either during the installation or later by changing a registry key.

On any one user device, multiple sessions to Bloomberg keyboards are not recommended. The keyboard only operates correctly in single-session environments.

To turn Bloomberg keyboard support on or off

Caution: Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.

1. Locate the following key in the registry:
   HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\GenericUSB

2. Do one of the following:
   - To turn on this feature, for the entry with Type DWORD and Name EnableBloombergHID, set Value to 1.
   - To turn off this feature, set the Value to 0.

If users have multiple Desktop Viewer windows, by default the desktops that are not active are dimmed. If users need to view multiple desktops simultaneously, this can make the information on them unreadable. You can disable the default behavior and prevent the Desktop Viewer window from dimming by editing the Registry.

Caution: Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.

1. On the user device, create a REG_DWORD entry called DisableDimming in one of the following keys, depending on whether you want to prevent dimming for the current user of the device or the device itself. An entry already exists if the Desktop Viewer has been used on the device:

   - HKCU\Software\Citrix\XenDesktop\DesktopViewer
   - HKLM\Software\Citrix\XenDesktop\DesktopViewer

   Optionally, instead of controlling dimming with the above user or device settings, you can define a local policy by creating the same REG_WORD entry in one of the following keys:

   - HKCU\Software\Policies\Citrix\XenDesktop\DesktopViewer
   - HKLM\Software\Policies\Citrix\XenDesktop\DesktopViewer

   The use of these keys is optional because XenDesktop administrators, rather than plug-in administrators or users, typically control policy settings using Group Policy. So, before using these keys, check whether your XenDesktop administrator has set a policy for this feature.

2. Set the entry to any non-zero value such as 1 or true.

   If no entries are specified or the entry is set to 0, the Desktop Viewer window is dimmed. If multiple entries are specified, the following precedence is used. The first entry that is located in this list, and its value, determine whether the window is dimmed:

   1. HKCU\Software\Policies\Citrix\...
   2. HKLM\Software\Policies\Citrix\...
   3. HKCU\Software\Citrix\...
   4. HKLM\Software\Citrix\...

In addition to the configuration options offered by the Receiver user interface, you can use the Group Policy Editor and the icaclient.adm template file to configure settings. Using the Group Policy Editor, you can:

- Extend the icaclient template to cover any Receiver setting by editing the icaclient.adm file. See the Microsoft Group Policy documentation for more information about editing .adm files and about applying settings to a particular computer.
- Make changes that apply only to either specific users or all users of a client device.
- Configure settings for multiple user devices

Citrix recommends using Group Policy to configure user devices remotely; however you can use any method, including the Registry Editor, which updates the relevant registry entries.

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.

   Note: If you already imported the icaclient template into the Group Policy Editor, you can omit Steps 2 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Configuration folder for Receiver (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. Under the User Configuration node or the Computer Configuration node, edit the relevant settings as required.

Configure StoreFront

Jul 12, 2016

Citrix StoreFront authenticates users to XenDesktop, XenApp, and VDI-in-a-Box, enumerating and aggregating available desktops and applications into stores that users access through Receiver.

In addition to the configuration summarized in this section, you must also configure NetScaler Gateway or Access Gateway to enable users to connect from outside the internal network (for example, users who connect from the Internet or from remote locations).

> **Note**
>
> Citrix Receiver for Windows always shows the older StoreFront user interface (Green bubble theme) instead of the updated StoreFront user interface after you select the option to show All Accounts.

1. Install and configure StoreFront as described in the StoreFront documentation. Receiver for Windows requires an HTTPS connection. If the StoreFront server is configured for HTTP, a registry key must be set on the user device as described in Configure and install Receiver for Windows using command-line parameters under the ALLOWADDSTORE property description.
   Note: For administrators who need more control, Citrix provides a template you can use to create a download site for Receiver.

Workspace control lets applications follow users as they move between devices. This enables, for example, clinicians in hospitals to move from workstation to workstation without having to restart their applications on each device. For Receiver for Windows, you manage workspace control on client devices by modifying the registry. This can also be done for domain-joined client devices using Group Policy.

Caution: Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use the Registry Editor at your own risk. Be sure to back up the registry before you edit it.

Create WSCReconnectModeUser and modify the existing registry key WSCReconnectMode in the Master Desktop Image or in XenApp server hosting. The published desktop can change the behavior of the Receiver.

WSCReconnectMode key settings for Windows Receiver:

- 0 = do not reconnect to any existing sessions
- 1 = reconnect on application launch
- 2 = reconnect on application refresh
- 3 = reconnect on application launch or refresh
- 4 = reconnect when Receiver interface opens
- 8 = reconnect on Windows log on
- 11 = combination of both 3 and 8

Disable workspace control for Windows Receiver

To disable workspace control for Windows Receiver, create the following key:

HKEY_CURRENT_USER\SOFTWARE\Wow6432Node\Citrix\Dazzle (64-bit)

HKEY_CURRENT_USER\SOFTWARE\Citrix\Dazzle for (32-bit)

Name: **WSCReconnectModeUser**

Type: REG_SZ

Value data: 0

Modify the following key from the default value of 3 to zero

HKEY_CURRENT_USER\SOFTWARE\Wow6432Node\Citrix\Dazzle (64-bit)

HKEY_CURRENT_USER\SOFTWARE\Citrix\Dazzle (32-bit)

Name: **WSCReconnectMode**

Type: REG_SZ

Value data: 0

Note: Alternatively, you can set the REG_SZ value WSCReconnectAll to false if you do not want to create a new key.

Changing the status indicator timeout

You can change the amount of time the status indicator displays when a user is launching a session. To alter the time out period, create a REG_DWORD value SI INACTIVE MS in HKLM\SOFTWARE\Citrix\ICA CLIENT\Engine\. The REG_DWORD value can be set to 4 if you want the status indicator to disappear sooner.

> ## Warning
>
> Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.

Configure Receiver with the Group Policy Object template

Dec 22, 2016

Citrix recommends using the Group Policy Object and provides template file receiver.adm or receiver.admx\receiver.adml (depending on OS) to configure settings related to Citrix Receiver for Windows.

> ## Note
>
> receiver.admx/receiver.adml is available on Windows Vista / Windows Server 2008 or later. ADM files are available only on Windows XP Embedded platforms.

> ## Note
>
> If Citrix Receiver for Windows is configured via VDA installation, admx/adml files is found in the Citrix Receiver for Windows installation directory. For example: <installation directory>\online plugin\Configuration.

See the table below for information on Citrix Receiver for Windows templates files and their respective location.

File Type	File Location
receiver.adm	<Installation Directory>\ICA Client\Configuration
receiver.admx	<Installation Directory>\ICA Client\Configuration
receiver.adml	<Installation Directory>\ICA Client\Configuration\[MUIculture]

> ## Note
>
> Citrix recommends you to use the template files provided with the latest Citrix Receiver for Windows. While importing the latest files, the previous settings are retained.

To add adm template files to the local GPO

Note: You can use adm template files to configure Local GPO and/or Domain-Based GPO.

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying

policies to a single computer, or by using the Group Policy Management Console when applying domain policies.
Note: If you already imported the Citrix Receiver for Windows template into the Group Policy Editor, you can leave out steps 2 to 5.
2.In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3.From the Action menu, choose Add/Remove Templates.
4.Select Add and browse to the template file location <Installation Directory>\ICA Client\Configuration\receiver.adm
5.Select Open to add the template and then Close to return to the Group Policy Editor.
Citrix Receiver for window template file will be available on local GPO in path Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver.
After the adm template files are added to the local GPO, the following message is displayed:
"The following entry in the [strings] section is too long and has been truncated:
Click OK to ignore the message.

To add admx/adml template files to the local GPO

NOTE: You can use admx/adml template files to configure Local GPO and/or Domain-Based GPO. Refer Microsoft MSDN article on managing ADMX files here
1. After installing Citrix Receiver for Windows, copy the template files.

admx:
From : <Installation Directory>\ICA Client\Configuration\receiver.admx
To : %systemroot%\policyDefinitions

adml:
From: <Installation Directory>\ICA Client\Configuration\[MUIculture]receiver.adml
To: %systemroot%\policyDefinitions\[MUIculture]

Citrix Receiver for Window template file is available on local GPO in Administrative Templates > Citrix Components > Citrix Receiver directory.

Citrix recommends using the Group Policy Object icaclient.adm template file to configure rules for network routing, proxy servers, trusted server configuration, user routing, remote user devices, and the user experience.

You can use the icaclient.adm template file with domain policies and local computer policies. For domain policies, import the template file using the Group Policy Management Console. This is especially useful for applying Citrix Receiver settings to a number of different user devices throughout the enterprise. To affect a single user device, import the template file using the local Group Policy Editor on the device.

> **Note**
>
> Citrix recommends that you use the GPO template files provided with latest Citrix Receiver. While importing the latest files, previous settings are retained.

Use this policy to configure the TLS options that ensure Citrix Receiver securely identifies the server that it is connecting to and to encrypt all communication with the server. Citrix recommends that connections over untrusted networks use TLS. Citrix supports TLS 1.0, TLS 1.1 and TLS 1.2 protocols between Receiver and XenApp or XenDesktop.

When this policy is enabled, you can force Receiver to use TLS for all connections to published applications and desktops by checking the "Require SSL for all connections" checkbox.

Citrix Receiver identifies the server by the name on the security certificate that the server presents. This has the form of a DNS name (for example, www.citrix.com). You can restrict Receiver to connect only to particular servers specified by a comma separated list in the "Allowed SSL servers" setting. Wildcards and port numbers can be specified here; for example, *.citrix.com:4433 allows connection to any server whose common name ends with .citrix.com on port 4433. The accuracy of the information in a security certificate is asserted by the certificate's issuer. If Receiver does not recognize and trust a certificate's issuer, the connection is rejected.

When connecting by TLS the server may be configured to require Receiver to provide a security certificate identifying itself. Use the "Client Authentication" setting to configure whether or not identification is provided automatically or if the user is notified. Options include:

- never supply identification
- only use the certificate configured here
- to always prompt the user to select a certificate
- to prompt the user only if there a choice of certificate to supply

> ### Tip
>
> Use the "Client Certificate" setting to specify the identifying certificate's thumbprint to avoid prompting the user unnecessarily.

When verifying the server's security certificate, you can configure the plug-in to contact the certificate's issuer to obtain a Certificate Revocation List (CRL) to ensure that the server certificate has not been revoked. This enables a certificate to be invalidated by its issuer should a system be compromised. Use the “CRL verification setting” to configure the plug-in to:

- not check CRLs at all
- only check CRLs that have been previously obtained from the issuer
- actively retrieve an up-to-date CRL
- to refuse to connect unless it can obtain an up-to-date CRL

Organizations that configure TLS for a range of products can choose to identify servers intended for Citrix plug-ins by specifying a Certificate Policy OID as part of the security certificate. If a Policy OID is configured here, Receiver accepts only certificates that declare a compatible Policy.

Some security policies have requirements related to the cryptographic algorithms used for a connection. You can restrict the plug-in to use only TLS v1.0, TLS 1.1 and TLS 1.2 with the "TLS version" setting. Similarly, you can restrict the plug-in to use only certain cryptographic ciphersuites. These cipersuites include:

Government Ciphersuites:

- TLS_RSA_WITH_AES_256_CBC_SHA
- TLS_RSA_WITH_3DES_EDE_CBC_SHA

- TLS_RSA_WITH_AES_256_GCM_SHA384

Commercial Ciphersuites:

- TLS_RSA_WITH_AES_128_CBC_SHA
- TLS_RSA_WITH_RC4_128_SHA
- TLS_RSA_WITH_RC4_128_MD5
- TLS_RSA_WITH_AES_128_GCM_SHA256

Citrix Receiver for Windows 4.4 introduces TLS and compliance mode configuration options to confgure FIPS (Federal Information Processing Standards). Use this feature to ensure that only FIPS (Publication 140-2) approved cryptography is used for all ICA connections.

A new security compliance mode provides support for NIST SP 800-52. By default, this mode is disabled (set to NONE).

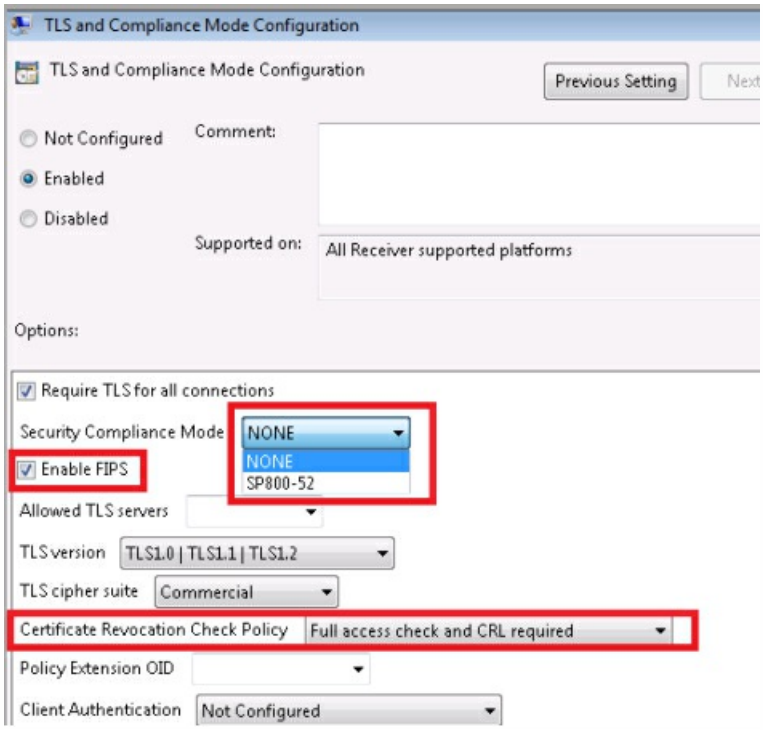
> ### Note
>
> For additional information about compliance required for NIST SP 800-52, see the NIST page describing guidelines for TLS implementations.

This version of Citirx Receiver also allows you to define the TLS version, which determines the TLS protocol for ICA connections. The highest and mutually available version between the client and server will be selected.

When using these features, in the TLS and Compliance Mode Configuration screen:

- Use the Enable FIPS checkbox to use the approved cryptography for all ICA sessions.
- Set the Security Compliance Mode to SP 800-52.
- Select the TLS version.

The image below illustrates FIPS options.



> **Note**
>
> By default, FIPS is disabled (unchecked).

Configuring FIPS

To configure FIPS cryptography between all ICA clients :

1. Select Computer Configuration > Administrative Templates > Citrix Components > Network Routing > **TLS and Compliance Mode Configuration**.
2. In the TLS and Compliance Mode Configuration screen, select **Enable FIPS**.
3. In the Security Compliance Mode section, use the drop down menu to select **SP 800-52**. When configuring this option:
   - SP 800-52 compliance mode requires FIPS compliance; when SP 800-52 is enabled, FIPS mode is also enabled regardless of the FIPS setting.
   - The Certificate Revocation Check Policy is either *Full access check and CRL required*, or *Full access check and CRL required all*.
4. Select the appropriate TLS protocol version for ICA connections; the highest and mutually available TLS version between the client and server will be selected, options include:
   - TLS 1.0 | TLS 1.1 | TLS 1.2 (the default)
   - TLS 1.1 | TLS 1.2
   - TLS 1.2

With the release of StoreFront 3.0 and Citrix Receiver 4.3, Citrix XenApp and XenDesktop support Microsoft's new format for displaying registry-based policy settings using a standards-based XML file format, known as ADMX files.

On Windows Vista/ Windows Server 2008 and later, these new files replace ADM files, which used their own markup language. ADM files are still available for Windows XP Embedded platforms. The administrative tools you use—the Group Policy Object Editor and the Group Policy Management Console—remain largely unchanged. In the majority of situations, you will not notice the presence of ADMX files during your day-to-day Group Policy administration tasks.

One of the main benefits of using the new ADMX files is the central store. This option is available to you when you are administering domain-based GPOs, although the central store is not used by default. Unlike the case with ADM files earlier, the Group Policy Object Editor will not copy ADMX files to each edited GPO, but will provide the ability to read from either a single domain-level location on the domain controller sysvol (not user configurable) or from the local administrative workstation when the central store is unavailable. You can share a custom ADMX file by copying the file to the central store, which makes it available automatically to all Group Policy administrators in a domain. This capability simplifies policy administration and improves storage optimization for GPO files.

ADMX files are divided into language-neutral (ADMX) and language-specific (ADML) resources, available to all Group Policy administrators. These factors allow Group Policy tools to adjust their UI according to the administrator's configured language.

> ### Note
>
> More details can be found at this Microsoft MSDN article on managing ADMX files.

ADMX and ADML file names and locations

The naming convention of the ADM files (provided in previous version of Receiver) has been improved. The table below provides the mapping of ADM files to their new ADMX file names:

Citrix Receiver Version (prior to 4.3)	Citrix Receiver version (4.3 and later)
Icaclient.adm	receiver.admx \ receiver.adm
Icaclient_usb.adm	receiver_usb.admx \ receiver_usb.adm
ica-file-signing.adm	ica-file-signing.admx \ ica-file-signing.admx
HdxFlash-Client.adm	HdxFlash-Client.admx \ HdxFlash-Client.admx

> ### Note
>
> Use .admx files on Windows Vista/Windows Server 2008 and later; use .adm files for other platforms.

You can copy custom ADMX and ADML files distributed with Citrix Receiver installer to the central store, which makes it

available automatically to all Group Policy administrators in a domain. The table below provides the location where you need to copy the ADMX and ADML files:

File type	File location
receiver.admx	<Installation Directory>\ICA Client\Configuration
ica-file-signing.admx	<Installation Directory>\ICA Client\Configuration
receiver_usb.admx	<Installation Directory>\ICA Client\Configuration\en
HdxFlash-Client.admx	<Installation Directory>\ICA Client\Configuration
receiver.adml	<Installation Directory>\ICA Client\Configuration
ica-file-signing.adml	<Installation Directory>\ICA Client\Configuration
receiver_usb.adml	<Installation Directory>\ICA Client\Configuration\en
HdxFlash-Client.adml	<Installation Directory>\ICA Client\Configuration\[MUIculture]

Note

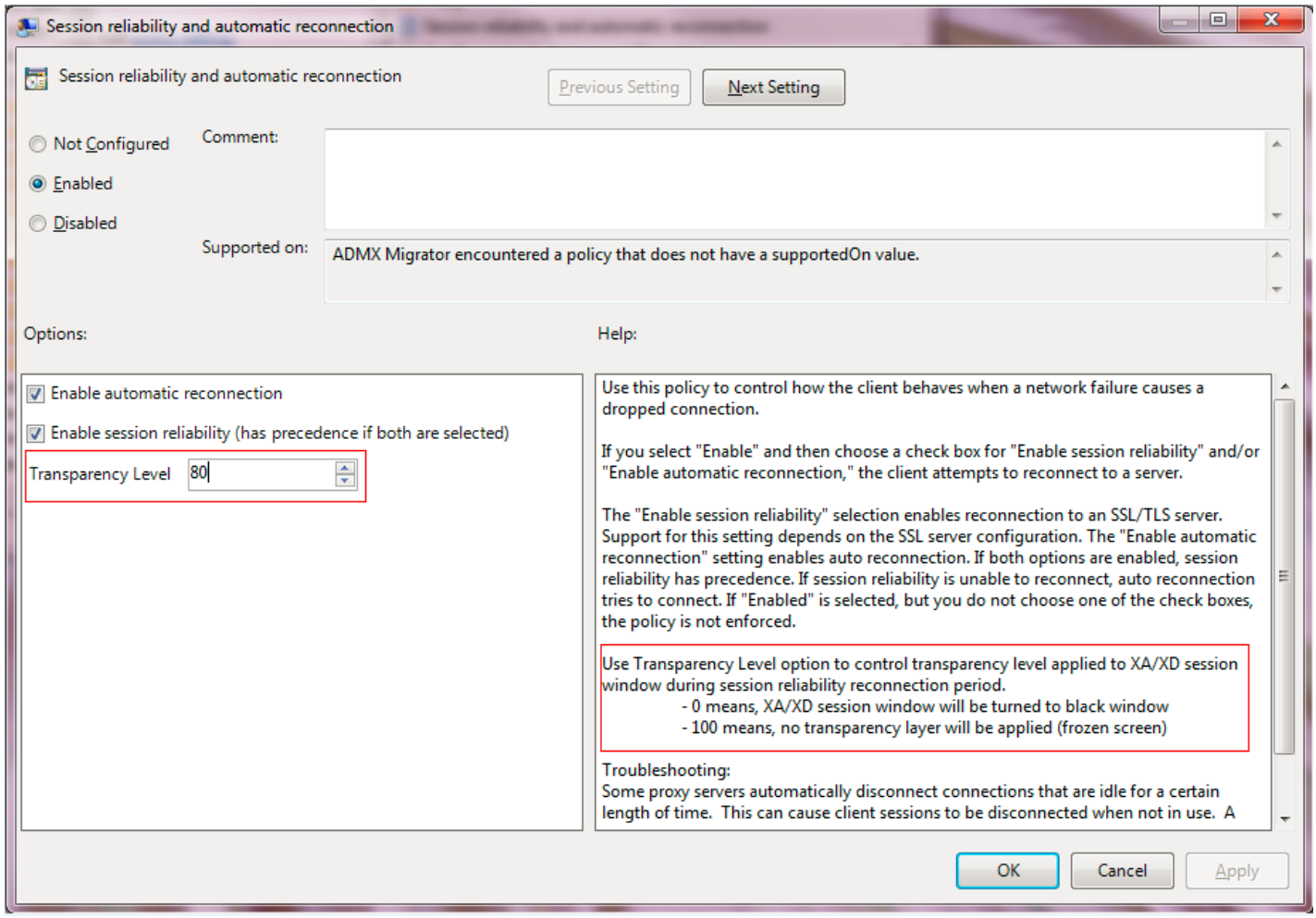
If Citrix Receiver is configured through VDA installation, ADMX/ADML files can be found in the installation directory. For example: <installation directory>\online plugin\Configuration.

When configuring session reliability group policy, set the transparency level. Using this option, you can control the transparency level applied to a published app (or desktop) during the session reliability reconnection period.

To configure the transparency level, select **Computer Configuration - > Administrate Templates-> Citrix Components - > Network Routing -> Session reliability and automatic reconnection - > Transparency Level**.

Note

By default, Transparency Level is set to 80.



Provide users with account information

Jan 15, 2016

Provide users with the account information they need to access virtual desktops and applications. You can provide this information by:

- Configuring email-based account discovery
- Providing users with a provisioning file
- Providing users with account information to enter manually

> ## Important
>
> Advise first-time Citrix Receiver users to restart Receiver after installing it. Restarting Receiver ensures that users can add accounts and that Receiver can discover USB devices that were in a suspended state when Receiver was installed.

When you configure Receiver for email-based account discovery, users enter their email address rather than a server URL during initial Receiver installation and configuration. Receiver determines the NetScaler Gateway or Access Gateway, or StoreFront Server associated with the email address based on Domain Name System (DNS) Service (SRV) records and then prompts the user to log on to access virtual desktops and applications.

> ## Note
>
> Email-based account discovery is not supported for deployments with Web Interface.

To configure your DNS server to support email-based discovery, see Configure email-based account discovery in the StoreFront documentation.

To configure NetScaler Gateway, see Connecting to StoreFront by using email-based discovery in the NetScaler Gateway documentation.

StoreFront provides provisioning files that users can open to connect to stores.

- You can use StoreFront to create provisioning files containing connection details for accounts. Make these files available to your users to enable them to configure Receiver automatically. After installing Receiver, users simply open the file to configure Receiver. If you configure Receiver for Web sites, users can also obtain Receiver provisioning files from those sites.
  For more information, refer to To export store provisioning files for users in the StoreFront documentation.

To enable users to set up accounts manually, be sure to distribute the information they need to connect to their virtual desktops and applications.

- For connections to a StoreFront store, provide the URL for that server. For example: https://servername.company.com For web interface deployments, provide the URL for the XenApp Services site.
- For connections through NetScaler Gateway, first determine whether user should see all configured stores or just the store that has remote access enabled for a particular NetScaler Gateway.
  - To present all configured stores: Provide users with the NetScaler Gateway fully-qualified domain name.
  - To limit access to a particular store: Provide users with the NetScaler Gateway fully-qualified domain name and the store name in the form:
    NetScalerGatewayFQDN?MyStoreName

    For example, if a store named "SalesApps" has remote access enabled for server1.com and a store named "HRApps" has remote access enabled for server2.com, a user must enter server1.com?SalesApps to access SalesApps or enter server2.com?HRApps to access HRApps. This feature requires that a first-time user create an account by entering a URL and is not available for email-based discovery.

When a user enters the details for a new account, Receiver attempts to verify the connection. If successful, Receiver prompts the user to log on to the account.

To manage accounts, a Receiver user opens the Receiver home page, clicks , and then clicks **Accounts**.

If you have more than one store account, you can configure Citrix Receiver for Windows to automatically connect to all accounts when establishing a session. To automatically view all accounts when opening Receiver:

For 32-bit systems, create the key "CurrentAccount":

Location: HKLM\Software\Citrix\Dazzle

KeyName: CurrentAccount

Value: AllAccount

Type: REG_SZ

For 64-bit systems, create the key "CurrentAccount":

Location: HKLM\Software\Wow6432Node\Citrix\Dazzle

KeyName: CurrentAccount

Value: AllAccount

Type: REG_SZ

> ## Warning
>
> Using Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Make sure you back up the registry before you edit it.

Optimize the Citrix Receiver environment

Oct 05, 2016

You can optimize the environment in which Receiver operates for your users.

- Reduce application launch time
- Mapping client devices
- Support DNS name resolution
- Use proxy servers with XenDesktop connections
- Provide support for NDS users
- Use Receiver with XenApp for UNIX
- Enable access to anonymous applications

For information about other optimization options, refer to topics in the XenDesktop documentation related to maintaining session activity and optimizing the user HDX experience.

Reduce application launch time

Nov 21, 2014

Use the session pre-launch feature to reduce application launch time during normal or high traffic periods, thus providing users with a better experience. The pre-launch feature allows a pre-launch session to be created when a user logs on to Receiver, or at a scheduled time if the user is already logged on.

This pre-launch session reduces the launch time of the first application. When a user adds a new account connection to Receiver, session pre-launch does not take effect until the next session. The default application ctxprelaunch.exe is running in the session, but it is not visible to the user.

Session pre-launch is supported for StoreFront deployments as of the StoreFront 2.0 release. For Web Interface deployments, be sure to use the Web Interface Save Password option to avoid logon prompts. Session pre-launch is not supported for XenDesktop 7 deployments.

Session pre-launch is disabled by default. To enable session pre-launch, specify the ENABLEPRELAUNCH=true parameter on the Receiver command line or set the EnablePreLaunch registry key to true. The default setting, null, means that pre-launch is disabled.

Note: If the client machine has been configured to support Domain Passthrough (SSON) authentication, then prelaunch is automatically enabled. If you want to use Domain Passthrough (SSON) without prelaunch, then set the EnablePreLaunch registry key value to false.
Caution: Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.
The registry locations are:

HKLM\Software\[Wow6432Node\]Citrix\Dazzle

HKCU\Software\Citrix\Dazzle

There are two types of pre-launch:

- **Just-in-time pre-launch**. Pre-Launch starts immediately after the user's credentials are authenticated whether or not it is a high-traffic period. Typically used for normal traffic periods. A user can trigger just-in-time pre-launch by restarting Receiver.
- **Scheduled pre-launch**. Pre-launch starts at a scheduled time. Scheduled pre-launch starts only when the user device is already running and authenticated. If those two conditions are not met when the scheduled pre-launch time arrives, a session does not launch. To spread network and server load, the session launches within a window of when it is scheduled. For example, if the scheduled pre-launch is scheduled for 1:45 p.m., the session actually launches between 1:15 p.m. and 1:45 p.m. Typically used for high-traffic periods.

Configuring pre-launch on a XenApp server consists of creating, modifying, or deleting pre-launch applications, as well as updating user policy settings that control the pre-launch application. See "To pre-launch applications to user devices" in the XenApp documentation for information about configuring session pre-launch on the XenApp server.

Customizing the pre-launch feature using the icaclient.adm file is not supported. However, you can change the pre-launch configuration by modifying registry values during or after Receiver installation. There are three HKLM values and two HKCU values:

- The HKLM values are written during client installation.
- The HKCU values enable you to provide different users on the same machine with different settings. Users can change the HKCU values without administrative permission. You can provide your users with scripts to accomplish this.

For Windows 7 and 8, 64-bit: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\Prelaunch

For all other supported 32-bit Windows operating systems: HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\Prelaunch

Name: UserOverride

Values:

0 - Use the HKEY_LOCAL_MACHINE values even if HKEY_CURRENT_USER values are also present.

1 - Use HKEY_CURRENT_USER values if they exist; otherwise, use the HKEY_LOCAL_MACHINE values.

Name: State

Values:

0 - Disable pre-launch.

1 - Enable just-in-time pre-launch. (Pre-Launch starts after the user's credentials are authenticated.)

2 - Enable scheduled pre-launch. (Pre-launch starts at the time configured for Schedule.)

Name: Schedule

Value:

The time (24 hour format) and days of week for scheduled pre-launch entered in the following format:

HH:MM|M:T:W:TH:F:S:SU where HH and MM are hours and minutes. M:T:W:TH:F:S:SU are the days of the week. For example, to enable scheduled pre-launch on Monday, Wednesday, and Friday at 1:45 p.m., set Schedule as Schedule=13:45|1:0:1:0:1:0:0 . The session actually launches between 1:15 p.m. and 1:45 p.m.

HKEY_CURRENT_USER\SOFTWARE\Citrix\ICA Client\Prelaunch

The State and Schedule keys have the same values as for HKLM.

Mapping client devices

May 02, 2013

Receiver supports device mapping on user devices so they are available from within a session. Users can:

- Transparently access local drives, printers, and COM ports
- Cut and paste between the session and the local Windows clipboard
- Hear audio (system sounds and .wav files) played from the session

During logon, Receiver informs the server of the available client drives, COM ports, and LPT ports. By default, client drives are mapped to server drive letters and server print queues are created for client printers so they appear to be directly connected to the session. These mappings are available only for the current user during the current session. They are deleted when the user logs off and recreated the next time the user logs on.

You can use the redirection policy settings to map user devices not automatically mapped at logon. For more information, see the XenDesktop or XenApp documentation.

You can configure user device mapping including options for drives, printers, and ports, using the Windows Server Manager tool. For more information about the available options, see your Remote Desktop Services documentation.

Client folder redirection changes the way client-side files are accessible on the host-side session. When you enable only client drive mapping on the server, client-side full volumes are automatically mapped to the sessions as Universal Naming Convention (UNC) links. When you enable client folder redirection on the server and the user configures it on the user device, the portion of the local volume specified by the user is redirected.

Only the user-specified folders appear as UNC links inside sessions instead of the complete file system on the user device. If you disable UNC links through the registry, client folders appear as mapped drives inside the session. For more information, including how to configure client folder redirection for user devices, see the XenDesktop 7 documentation.

Client drive mapping allows drive letters on the host-side to be redirected to drives that exist on the user device. For example, drive H in a Citrix user session can be mapped to drive C of the user device running Receiver.

Client drive mapping is built into the standard Citrix device redirection facilities transparently. To File Manager, Windows Explorer, and your applications, these mappings appear like any other network mappings.

The server hosting virtual desktops and applications can be configured during installation to map client drives automatically to a given set of drive letters. The default installation maps drive letters assigned to client drives starting with V and works backward, assigning a drive letter to each fixed drive and CD-ROM drive. (Floppy drives are assigned their existing drive letters.) This method yields the following drive mappings in a session:

Client drive letter	Is accessed by the server as:
A	A

Client drive letter	Is accessed by the server as:
C	V
D	U

The server can be configured so that the server drive letters do not conflict with the client drive letters; in this case the server drive letters are changed to higher drive letters. For example, changing server drives C to M and D to N allows client devices to access their C and D drives directly. This method yields the following drive mappings in a session:

Client drive letter	Is accessed by the server as:
A	A
B	B
C	C
D	D

The drive letter used to replace the server drive C is defined during Setup. All other fixed drive and CD-ROM drive letters are replaced with sequential drive letters (for example; C > M, D > N, E > O). These drive letters must not conflict with any existing network drive mappings. If a network drive is mapped to the same drive letter as a server drive letter, the network drive mapping is not valid.

When a user device connects to a server, client mappings are reestablished unless automatic client device mapping is disabled. Client drive mapping is enabled by default. To change the settings, use the Remote Desktop Services (Terminal Services) Configuration tool. You can also use policies to give you more control over how client device mapping is applied. For more information about policies, see the XenDesktop or XenApp documentation in eDocs.

Updated: 2015-01-27

HDX Plug and Play USB device redirection enables dynamic redirection of media devices, including cameras, scanners, media players, and point of sale (POS) devices to the server. You or the user can restrict redirection of all or some of the devices. Edit policies on the server or apply group policies on the user device to configure the redirection settings. For more information, see USB and client drive considerations in the XenApp and XenDesktop documentation.

Important: If you prohibit Plug and Play USB device redirection in a server policy, the user cannot override that policy setting. A user can set permissions in Receiver to always allow or reject device redirection or to be prompted each time a device is connected. The setting affects only devices plugged in after the user changes the setting.

Client COM port mapping allows devices attached to the COM ports of the user device to be used during sessions. These

mappings can be used like any other network mappings.

You can map client COM ports at the command prompt. You can also control client COM port mapping from the Remote Desktop (Terminal Services) Configuration tool or using policies. For information about policies, see the XenDesktop or XenApp documentation.

Important: COM port mapping is not TAPI-compatible. TAPI devices cannot be mapped to client COM ports.

1. For XenDesktop 7 deployments, enable the Client COM port redirection policy setting.
2. Log on to Receiver.
3. At a command prompt, type:

   net use comx: \\client\comz:

   where x is the number of the COM port on the server (ports 1 through 9 are available for mapping) and z is the number of the client COM port you want to map.

4. To confirm the operation, type:

   net use

   at a command prompt. The list that appears contains mapped drives, LPT ports, and mapped COM ports.

   To use this COM port in a virtual desktop or application, install your user device to the mapped name. For example, if you map COM1 on the client to COM5 on the server, install your COM port device on COM5 during the session. Use this mapped COM port as you would a COM port on the user device.

Support DNS name resolution

Jun 19, 2013

You can configure Receivers that use the Citrix XML Service to request a Domain Name Service (DNS) name for a server instead of an IP address.

Important: Unless your DNS environment is configured specifically to use this feature, Citrix recommends that you do not enable DNS name resolution in the server farm.

Receivers connecting to published applications through the Web Interface also use the Citrix XML Service. For Receivers connecting through the Web Interface, the Web server resolves the DNS name on behalf of the Receiver.

DNS name resolution is disabled by default in the server farm and enabled by default on the Receiver. When DNS name resolution is disabled in the farm, any Receiver request for a DNS name returns an IP address. There is no need to disable DNS name resolution on Receiver.

To disable DNS name resolution for specific user devices

If your server deployment uses DNS name resolution and you experience issues with specific user devices, you can disable DNS name resolution for those devices.

Caution: Using Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Make sure you back up the registry before you edit it.

1. Add a string registry key xmlAddressResolutionType to HKEY_LOCAL_MACHINE\Software\Wow6432Node\Citrix\ICA Client\Engine\Lockdown Profiles\All Regions\Lockdown\Application Browsing.
2. Set the value to IPv4-Port.
3. Repeat for each user of the user devices.

Use proxy servers with XenDesktop connections

Apr 13, 2015

If you do not use proxy servers in your environment, correct the Internet Explorer proxy settings on any user devices running Internet Explorer 7.0 on Windows XP. By default, this configuration automatically detects proxy settings. If proxy servers are not used, users will experience unnecessary delays during the detection process. For instructions on changing the proxy settings, consult your Internet Explorer documentation. Alternatively, you can change proxy settings using the Web Interface. For more information, consult the Web Interface documentation.

Improve the user experience

Jan 06, 2016

You can improve your users' experience with the following features:

Hardware decoding

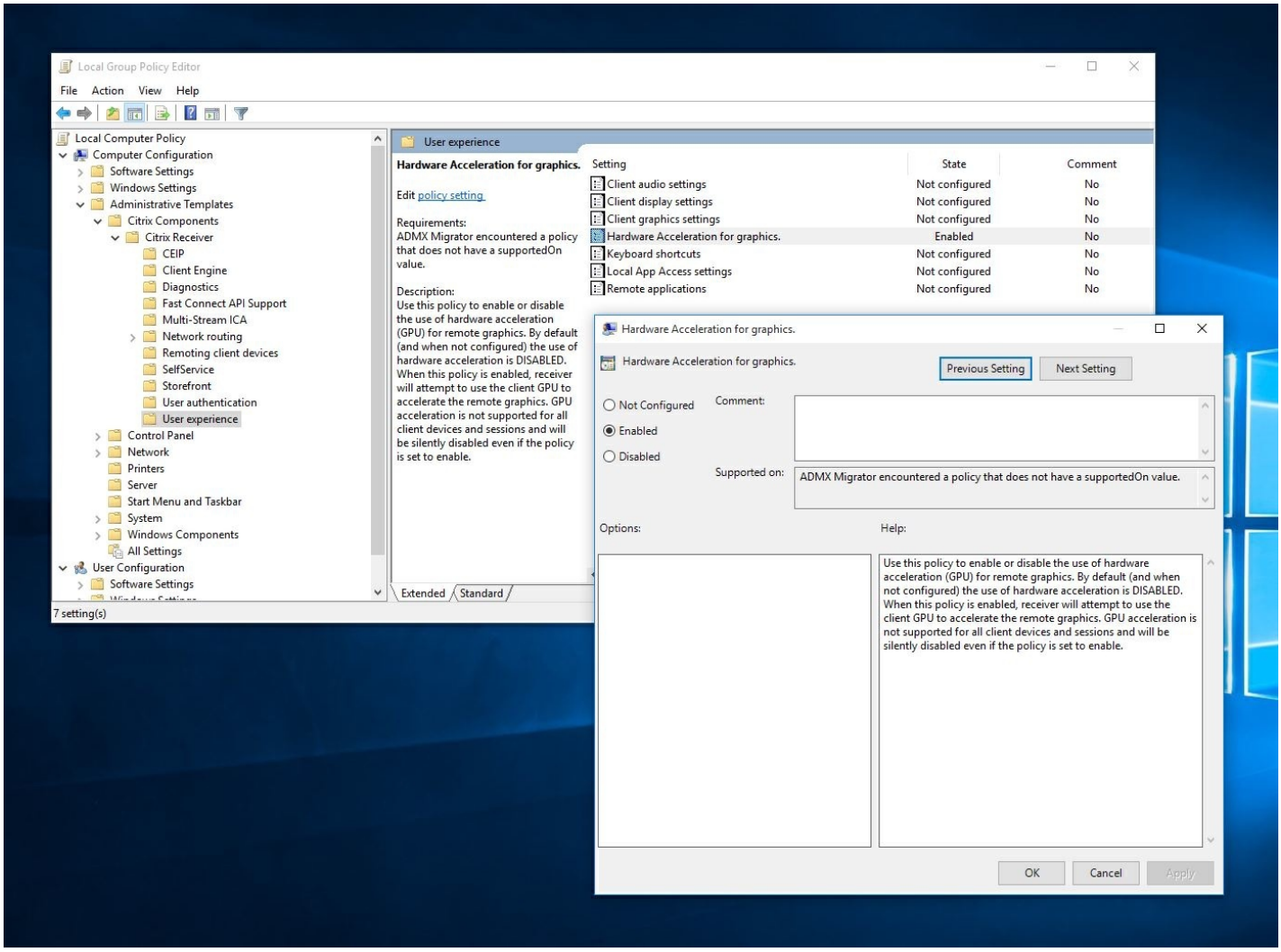
When using Citrix Receiver for Windows version 4.4 (with HDX engine 14.4), the GPU can be used for H.264 decoding wherever it is available at the client. The API layer used for GPU decoding is DXVA (DirectX Video Acceleration).

For more information, refer to the Improved User Experience: Hardware Decoding for Citrix Windows Receiver blog.

> ### Note
>
> By default, the hardware decoding feature is OFF; it can be enabled via client-side policies.

To enable hardware decoding:

1. Copy “receiver.adml” from “root\Citrix\ICA Client\Configuration\en” to “C:\Windows\PolicyDefinitions\en-US”.
2. Copy “receiver.admx” from “root\Citrix\ICA Client\Configuration” to “C:\Windows\PolicyDefinitions\”.
3. Navigate to **Local Group policy editor**.
4. Under Computer Configuration-> Administrative Templates -> Citrix Receiver -> User Experience, open **Hardware Acceleration for graphics**.
5. Select **Enabled** and click **OK**.



To validate if the policy was applied and hardware acceleration is being used for an active ICA session, look for the following registry entries:

Registry Path: HKCU\Software\Citrix\ICA Client\CEIP\Data\GfxRender\<session ID>

> ## Tip
>
> The value for **Graphics_GfxRender_Decoder** and **Graphics_GfxRender_Renderer** should be 2. If the value is 1, that means CPU based decoding is being used.

When using the hardware decoding feature, consider the following limitations:

- If the client has two GPU's and if one of the monitors is active on the 2nd GPU, CPU decoding will be used.
- When connecting to a XenApp 7.x server running on Windows Server 2008 R2, Citrix recommends that you do not to use hardware decoding on the user's Windows device. If enabled, issues like slow performance while highlighting text and flickering issues will be seen.

Client-side microphone input

Receiver supports multiple client-side microphone input. Locally installed microphones can be used for:

- Real-time activities, such as softphone calls and Web conferences.
- Hosted recording applications, such as dictation programs.
- Video and audio recordings.

Receiver users can select whether to use microphones attached to their device by changing a Connection Center setting. XenDesktop users can also use the XenDesktop Viewer Preferences to disable their microphones and webcams.

Multi-monitor support

Updated: 2014-11-28

You can use up to eight monitors with Receiver.

Each monitor in a multiple monitor configuration has its own resolution designed by its manufacturer. Monitors can have different resolutions and orientations during sessions.

Sessions can span multiple monitors in two ways:

- Full screen mode, with multiple monitors shown inside the session; applications snap to monitors as they would locally. **XenDesktop:** To display the Desktop Viewer window across any rectangular subset of monitors, resize the window across any part of those monitors and press the Maximize button.
- Windowed mode, with one single monitor image for the session; applications do not snap to individual monitors.

XenDesktop: When any desktop in the same assignment (formerly "desktop group") is launched subsequently, the window setting is preserved and the desktop is displayed across the same monitors. Multiple virtual desktops can be displayed on one device provided the monitor arrangement is rectangular. If the primary monitor on the device is used by the XenDesktop session, it becomes the primary monitor in the session. Otherwise, the numerically lowest monitor in the session becomes the primary monitor.

To enable multi-monitor support, ensure the following:

- The user device is configured to support multiple monitors.
- The user device operating system must be able to detect each of the monitors. On Windows platforms, to verify that this detection occurs, on the user device, view the Settings tab in the Display Settings dialog box and confirm that each monitor appears separately.
- After your monitors are detected:
  - **XenDesktop:** Configure the graphics memory limit using the Citrix Machine Policy setting Display memory limit.
  - **XenApp:** Depending on the version of the XenApp server you have installed:
    - Configure the graphics memory limit using the Citrix Computer Policy setting Display memory limit.
    - From the Citrix management console for the XenApp server, select the farm and in the task pane, select Modify Server Properties > Modify all properties > Server Default > HDX Broadcast > Display (or Modify Server Properties > Modify all properties > Server Default > ICA > Display) and set the Maximum memory to use for each session's graphics.

Ensure the setting is large enough (in kilobytes) to provide sufficient graphic memory. If this setting is not high enough, the published resource is restricted to the subset of the monitors that fits within the size specified.

For information about calculating the session's graphic memory requirements for XenApp and XenDesktop, see ctx115637.

Printer setting overrides on devices

If the Universal printing optimization defaults policy setting Allow non-administrators to modify these settings is enabled, users can override the Image Compression and Image and Font Caching options specified in that policy setting.

To override the printer settings on the user device

1. From the Print menu available from an application on the user device, choose Properties.
2. On the Client Settings tab, click Advanced Optimizations and make changes to the Image Compression and Image and Font Caching options.

On-screen keyboard control

To enable touch-enabled access to virtual applications and desktops from Windows tablets, Receiver automatically displays the on-screen keyboard when you activate a text entry field, and when the device is in tent or tablet mode.

On some devices and in some circumstances, Receiver cannot accurately detect the mode of the device, and the on-screen keyboard may appear when you do not want it to.

To suppress the on-screen keyboard from appearing when using a convertible device (tablet with detachable keyboard), create a REG_DWORD value DisableKeyboardPopup in HKLM\SOFTWARE\Citrix\ICA Client\Engine\Configuration\Advanced\Modules\MobileReceiver and set the value to 1.
Note: On a x64 machine, create the value in HKLM\SOFTWARE\Wow6432Node\ Citrix\ICA Client\Engine\Configuration\Advanced\Modules\MobileReceiver

Keyboard shortcuts

You can configure combinations of keys that Receiver interprets as having special functionality. When the keyboard shortcuts policy is enabled, you can specify Citrix Hotkey mappings, behavior of Windows hotkeys, and keyboard layout for sessions.

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.

   Note: If you already imported the icaclient template into the Group Policy Editor, you can omit Steps 2 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Receiver Configuration folder (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > User Experience > Keyboard shortcuts.
7. From the Action menu, choose Properties, select Enabled, and choose the desired options.

Receiver support for 32-bit color icons

Receiver supports 32-bit high color icons and automatically selects the color depth for applications visible in the Citrix Connection Center dialog box, the Start menu, and task bar to provide for seamless applications.

Caution: Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.
To set a preferred depth, you can add a string registry key named TWIDesiredIconColor to HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Citrix\ICA Client\Engine\Lockdown Profiles\All Regions\Preferences

and set it to the desired value. The possible color depths for icons are 4, 8, 16, 24, and 32 bits-per-pixel. The user can select a lower color depth for icons if the network connection is slow.

Enabling Desktop Viewer

Different enterprises have different corporate needs. Your requirements for the way users access virtual desktops may vary from user to user and may vary as your corporate needs evolve. The user experience of connecting to virtual desktops and the extent of user involvement in configuring the connections depend on how you set up Receiver for Windows.

Use the **Desktop Viewer** when users need to interact with their virtual desktop. The user's virtual desktop can be a published virtual desktop, or a shared or dedicated desktop. In this access scenario, the Desktop Viewer toolbar functionality allows the user to open a virtual desktop in a window and pan and scale that desktop inside their local desktop. Users can set preferences and work with more than one desktop using multiple XenDesktop connections on the same user device.

Note: Your users must use Citrix Receiver to change the screen resolution on their virtual desktops. They cannot change Screen Resolution using Windows Control Panel.

Keyboard input in Desktop Viewer sessions

In Desktop Viewer sessions, Windows logo key+L is directed to the local computer.

Ctrl+Alt+Delete is directed to the local computer.

Key presses that activate StickyKeys, FilterKeys, and ToggleKeys (Microsoft accessibility features) are normally directed to the local computer.

As an accessibility feature of the Desktop Viewer, pressing Ctrl+Alt+Break displays the Desktop Viewer toolbar buttons in a pop-up window.

Ctrl+Esc is sent to the remote, virtual desktop.

Note: By default, if the Desktop Viewer is maximized, Alt+Tab switches focus between windows inside the session. If the Desktop Viewer is displayed in a window, Alt+Tab switches focus between windows outside the session.
Hotkey sequences are key combinations designed by Citrix. For example, the Ctrl+F1 sequence reproduces Ctrl+Alt+Delete, and Shift+F2 switches applications between full-screen and windowed mode. You cannot use hotkey sequences with virtual desktops displayed in the Desktop Viewer (that is, with XenDesktop sessions), but you can use them with published applications (that is, with XenApp sessions).

Connect to virtual desktops

From within a desktop session, users cannot connect to the same virtual desktop. Attempting to do so will disconnect the existing desktop session. Therefore, Citrix recommends:

- Administrators should not configure the clients on a desktop to point to a site that publishes the same desktop
- Users should not browse to a site that hosts the same desktop if the site is configured to automatically reconnect users to existing sessions
- Users should not browse to a site that hosts the same desktop and try to launch it

Be aware that a user who logs on locally to a computer that is acting as a virtual desktop blocks connections to that desktop.

If your users connect to virtual applications (published with XenApp) from within a virtual desktop and your organization has

a separate XenApp administrator, Citrix recommends working with them to define device mapping such that desktop devices are mapped consistently within desktop and application sessions. Because local drives are displayed as network drives in desktop sessions, the XenApp administrator needs to change the drive mapping policy to include network drives.

Changing the status indicator timeout

You can change the amount of time the status indicator displays when a user is launching a session. To alter the time out period, create a REG_DWORD value SI INACTIVE MS in HKLM\SOFTWARE\Citrix\ICA CLIENT\Engine\. The REG_DWORD value can be set to 4 if you want the status indicator to disappear sooner.

Caution: Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.

Secure your connections

May 01, 2013

To maximize the security of your environment, the connections between Citrix Receiver and the resources you publish must be secured. You can configure various types of authentication for your Citrix Receiver software, including smart card authentication, certificate revocation list checking, and Kerberos pass-through authentication.

Windows NT Challenge/Response (NTLM) authentication is supported by default on Windows computers.

Configure domain pass-through authentication

Nov 03, 2015

This topic shows you how to enable domain pass-through authentication for Citrix Receiver with XenDesktop or XenApp.

> **Note**
>
> In this example, the Citrix Receiver installation, application of computer policy, and the configuration of a trusted site on the client operating system are done manually. Once a Group Policy Object (GPO) template is built, you can apply it to any domain client machine where Citrix Receiver has been installed.

Citrix Receiver installation

There two ways to enable domain pass-through (SSON) when installing Citrix Receiver:

- using the command line installation
- using the graphical user interface

Enable domain pass-through using the command line interface

To enable domain-passthrough (SSON) using the command line interface:

1. Install Citrix Receiver 4.x with the **/includeSSON** switch.
   - Install one or more StoreFront stores (you can complete this step at a later stage); installing StoreFront stores is not a prerequisite for setting up domin pass-through authentication.
   - Verify that pass-through authentication is enabled by starting Citrix Receiver, then confirm that the ssonsvr.exe process is running in task manager after rebooting the end point where Citrix Receiver is installed.

> **Note**
>
> For information on the syntax for adding one or more StoreFront stores, see Configure and install Receiver for Windows using command-line parameters.

Enable domain pass-through using the graphical user interface

To enable domain pass-through using the graphical user interface:

1. Locate the Citrix Receiver installation file (CitrixReceiver.exe).
2. Double click **CitrixReceiver.exe** to launch the installer.
3. In the Enable Single Sign-on installation wizard, select the Enable single sign-on checkbox to install Citrix Receiver with the SSON feature enabled; this is equivalent to installing Citrix Receiver using the command line switch **/includeSSON**.

The image below illustrates how to enable single sign-on:

> **Note**
>
> The Enable Single Sign-on installation wizard is only available for fresh Installation on a domain joined machine.

Verfy that pass-through authentication is enabled by starting Citrix Receiver, then confirm that the **ssonsvr.exe** process is running in task manager after rebooting the endpoint on which Citrix Receiver is installed.

Group policy settings for SSON

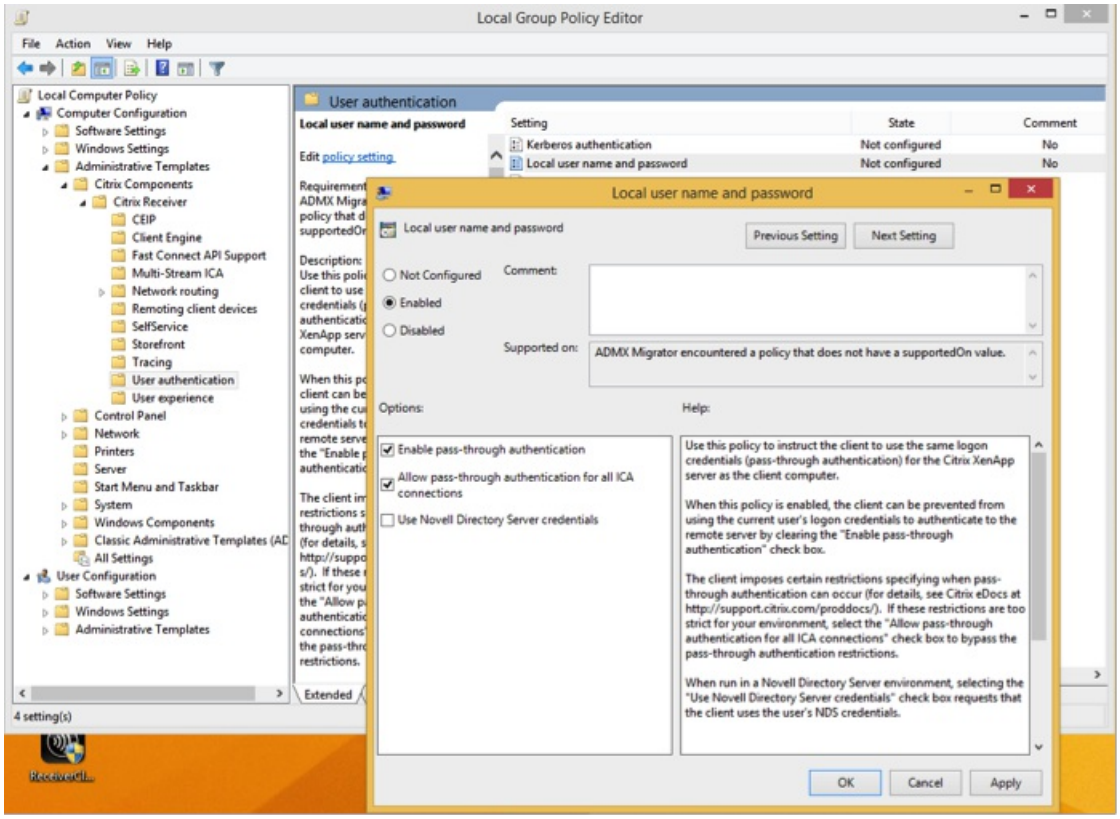
Use the information in this section to configure group policy settings for SSON authentication.

> **Note**
>
> The default value of the GPO policy setting related to SSON is **Enable pass-through authentication**, and is sufficient for SSON to work. Use the procedures below to modify this setting.

Using an ADMX file for SSON group policy

Use the following procedure to configure group policy settings using an ADMX file:

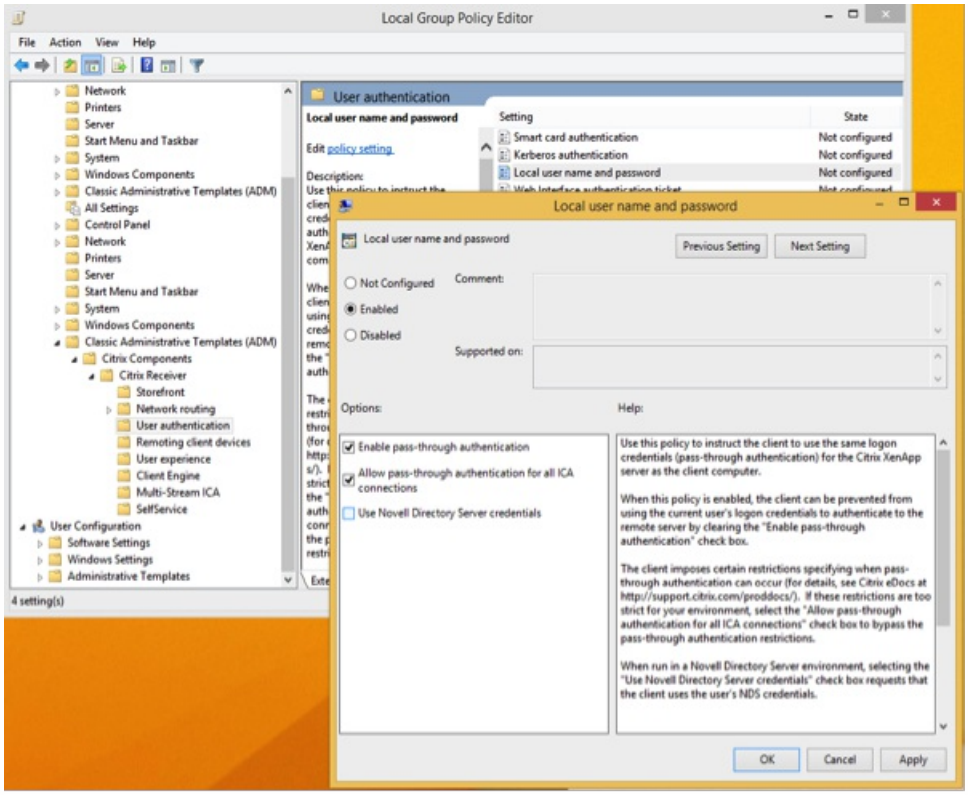
1. Load group policy files. For installations using Citrix Receiver 4.3 and later, use **Receiver.ADMX** or **Receiver.ADML** located in the %SystemDrive%\Program Files (x86)\Citrix\ICA Client\Configuration folder.
2. Open **gpedit.msc**, right-click **Computer Configuration > Administrative Templates - > Citrix Component-> Citrix Receiver->User Authentication**.
3. Enable the following local computer GPO settings (on the user's local machine and/or in the VDA desktop golden image):
   - Choose the local user name and password.
   - Select **Enabled**.
   - Select **Enable pass-through authentication**.
4. Reboot the end point (on which Citrix Receiver is installed) or the VDA desktop golden image.



Using an ADM file for SSON group policy

Use the following procedure to configure group policy settings using an ADM file:

1. Open the local group policy editor by selecting **Computer Configuration > Right-click Administrative Templates > Choose Add/Remove Templates**.
2. Click **Add** to add a ADM template.
3. After successfully adding the **receiver.adm** template, expand **Computer Configuration > Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > User authentication**.



4. Open Internet Explorer on the local machine and/or in the VDA desktop golden image.

5. In **Internet Settings > Security > Trusted Sites**, add the StoreFront server(s) fully qualified domain name (FQDN), without the store path, to the list. For example, https://storefront.example.com.

> ## Note
>
> You can also add the StoreFront server to the Trusted Sites using a Microsoft GPO. The GPO is called **Site to Zone Assignment List;** you can find this list in **Computer Configuration > Administrative Templates > Windows Components > Internet Explorer > Internet Control Panel > Security Page**.

6. Log off, and log back on to the Citrix Receiver endpoint.

When Citrix Receiver opens, if the current user is logged on to the domain, the user's credentials are passed through to StoreFront, along with enumerated apps and desktops within Citrix Receiver, including the user's Start menu settings. When the user clicks an icon, Citrix Receiver passes through the user's domain credentials to the Delivery Controller and the app (or desktop) opens.

Changes on the Delivery Controller

Use the following procedure to configure SSON on StoreFront and Web Interface

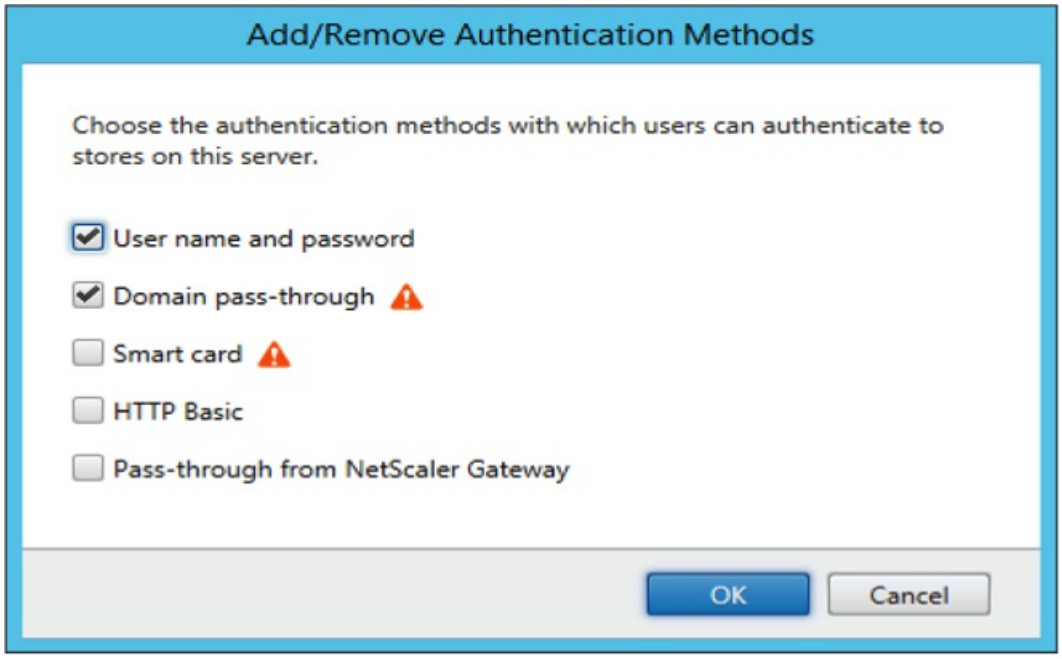
1. Log onto the Delivery Controller(s) as an administrator.
2. Open Windows PowerShell (with administrative privileges). Using PowerShell, you'll issue commands to enable the Delivery Controller to trust XML requests sent from StoreFront.

3. If not already loaded, load the Citrix cmdlets by typing **Add-PSSapin Citrix***, and press **Enter**.
4. Press Enter.
5. Type **Add-PSSnapin citrix.broker.admin.v2**, and press **Enter**.
6. Tpe S**et-BrokerSite -TrustRequestsSentToTheXmlServicePort $True**, and press **Enter**.
7. Closer PowerShell.

Configuring SSON on StoreFront and Web Ingterface

StoreFront configuration

To configure SSON on StoreFront and Web Interface, open Studio on the StoreFront Server and select **Authentication->Add /Remove Methods**. Select **Domain pass-through**.



Web Interface configuration

To configure SSON on Web Interface, select **Citrix Web Interface Management-> XenApp Sevices Sites-> Authentication Methods** and enable **Pass-through**.

About FastConnect API and HTTP basic authentication

The FastConnect API uses the HTTP Basic Authentication method, which is freqently confused with authentication methods associated with domain passthrough, Kerberos, and IWA. Citrix recommends that you disable IWA on StoreFront and in ICA group policy.

Configure domain pass-through authentication with Kerberos

Dec 01, 2014

This topic applies only to connections between Citrix Receiver and StoreFront, XenDesktop, or XenApp.

Citrix Receiver for Windows supports Kerberos for domain pass-through authentication for deployments that use smart cards. Kerberos is one of the authentication methods included in Integrated Windows Authentication (IWA).

When Kerberos authentication is enabled, Kerberos authenticates without passwords for Citrix Receiver, thus preventing Trojan horse-style attacks on the user device to gain access to passwords. Users can log on to the user device with any authentication method; for example, a biometric authenticator such as a fingerprint reader, and still access published resources without further authentication.

Citrix Receiver handles pass-through authentication with Kerberos as follows when Citrix Receiver, StoreFront, XenDesktop and XenApp are configured for smart card authentication and a user logs on with a smart card:

1. The Citrix Receiver single sign-on service captures the smart card PIN.
2. Citrix Receiver uses IWA (Kerberos) to authenticate the user to StoreFront. StoreFront then provides Receiver with information about available virtual desktops and apps.
   Note: You do not have to use Kerberos authentication for this step. Enabling Kerberos on Receiver is only needed to avoid an extra PIN prompt. If you do not use Kerberos authentication, Receiver authenticates to StoreFront using the smart card credentials.
3. The HDX engine (previously referred to as the ICA client) passes the smart card PIN to XenDesktop or XenApp to log the user on to the Windows session. XenDesktop or XenApp then deliver the requested resources.

To use Kerberos authentication with Citrix Receiver, make sure your Kerberos configuration conforms to the following.

- Kerberos works only between Receiver and servers that belong to the same or to trusted Windows Server domains. Servers must also be trusted for delegation, an option you configure through the Active Directory Users and Computers management tool.
- Kerberos must be enabled on the domain and in XenDesktop and XenApp. For enhanced security and to ensure that Kerberos is used, disable on the domain any non-Kerberos IWA options.
- Kerberos logon is not available for Remote Desktop Services connections configured to use Basic authentication, to always use specified logon information, or to always prompt for a password.

The remainder of this topic describes how to configure domain pass-through authentication for the most common scenarios. If you are migrating to StoreFront from Web Interface and previously used a customized authentication solution, contact your Citrix Support representative for more information.

> ### Warning
>
> Some of the configuration described in this topic include registry edits. Using Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Make sure you back up the registry before you edit it.

To configure domain pass-through authentication with Kerberos for use with smart cards

If you are not familiar with smart card deployments in a XenDesktop environment, we recommend that you review the smart card information in the Secure your deployment section in the XenDesktop documentation before continuing.

When you install Citrix Receiver, include the following command-line option:

- /includeSSON
  This option installs the single sign-on component on the domain-joined computer, enabling Receiver to authenticate to StoreFront using IWA (Kerberos). The single sign-on component stores the smart card PIN, which is then used by the HDX engine when it remotes the smart card hardware and credentials to XenDesktop. XenDesktop automatically selects a certificate from the smart card and obtains the PIN from the HDX engine.

  A related option, ENABLE_SSON, is enabled by default and should remain enabled.

  If a security policy prevents enabling single sign-on on a device, configure Receiver through the following policy:

  Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > User authentication > Local user name and password

  Note: In this scenario you want to allow the HDX engine to use smart card authentication and not Kerberos, so do not use the option ENABLE_KERBEROS=Yes, which would force the HDX engine to use Kerberos.

To apply the settings, restart Receiver on the user device.

To configure StoreFront:

- In the default.ica file located on the StoreFront server, set DisableCtrlAltDel to false.
  Note: This step is not required if all client machines are running Receiver for Windows 4.2 or above.
- When you configure the authentication service on the StoreFront server, select the Domain pass-through check box. That setting enables Integrated Windows Authentication. You do not need to select the Smart card check box unless you also have non domain joined clients connecting to Storefront with smart cards.

For more information about using smart cards with StoreFront, refer to Configure the authentication service in the StoreFront documentation.

About FastConnect API and HTTP basic authentication

The FastConnect API uses the HTTP Basic Authentication method, which is freqently confused with authentication methods associated with domain passthrough, Kerberos, and IWA. Citrix recommends that you disable IWA on StoreFront and in ICA group policy.

Configure smart card authentication

Nov 28, 2014

Receiver for Windows supports the following smart card authentication features. For information about XenDesktop and StoreFront configuration, refer to the documentation for those components. This topic describes Receiver for Windows configuration for smart cards.

- **Pass-through authentication (single sign-on) –** Pass-through authentication captures smart card credentials when users log on to Receiver. Receiver uses the captured credentials as follows:
  - Users of domain-joined devices who log on to Receiver with smart card credentials can start virtual desktops and applications without needing to re-authenticate.
  - Users of non-domain-joined devices who log on to Receiver with smart card credentials must enter their credentials again to start a virtual desktop or application.

  Pass-through authentication requires StoreFront and Receiver configuration.

- **Bimodal authentication –** Bimodal authentication offers users a choice between using a smart card and entering their user name and password. This feature is useful if the smart card cannot be used (for example, the user has left it at home or the logon certificate has expired). Dedicated stores must be set up per site to allow this, using the DisableCtrlAltDel method set to False to allow smart cards. Bimodal authentication requires StoreFront configuration. If NetScaler Gateway is present in the solution, is also requires configuration.
  Bimodal authentication also now gives the StoreFront administrator the opportunity to offer the end user both user name and password and smart card authentication to the same store by selecting them in the StoreFront Console. See StoreFront documentation.

- **Multiple certificates –** Multiple certificates can be available for a single smart card and if multiple smart cards are in use. When a user inserts a smart card into a card reader, the certificates are available to all applications running on the user device, including Receiver. To change how certificates are selected, configure Receiver.
- **Client certificate authentication –** Client certificate authentication requires NetScaler Gateway/Access Gateway and StoreFront configuration.
  - For access to StoreFront resources through NetScaler Gateway/Access Gateway, users might have to re-authenticate after removing a smart card.
  - When the NetScaler Gateway/Access Gateway SSL configuration is set to mandatory client certificate authentication, operation is more secure. However mandatory client certificate authentication is not compatible with bimodal authentication.
- **Double hop sessions –** If a double-hop is required, a further connection is established between Receiver and the user's virtual desktop. Deployments supporting double hops are described in the XenDesktop documentation.
- **Smart card-enabled applications –** Smart card-enabled applications, such as Microsoft Outlook and Microsoft Office, allow users to digitally sign or encrypt documents available in virtual desktop or application sessions.

Prerequisites

This topic assumes familiarity with the smart card topics in the XenDesktop and StoreFront documentation.

Limitations

- Certificates must be stored on a smart card, not the user device.
- Receiver for Windows does not save the user certificate choice, but can store the PIN when configured. The PIN is only cached in non-paged memory for the duration of the user session and is not stored to disk at any point.

- Receiver for Windows does not reconnect sessions when a smart card is inserted.
- When configured for smart card authentication, Receiver for Windows does not support virtual private network (VPN) single-sign on or session pre-launch. To use VPN tunnels with smart card authentication, users must install the NetScaler Gateway Plug-in and log on through a web page, using their smart cards and PINs to authenticate at each step. Pass-through authentication to StoreFront with the NetScaler Gateway Plug-in is not available for smart card users.
- Receiver for Windows Updater communications with citrix.com and the Merchandising Server is not compatible with smart card authentication on NetScaler Gateway.

> ### Warning
>
> Some of the configuration described in this topic include registry edits. Using Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Make sure you back up the registry before you edit it.

To enable single sign-on for smart card authentication

To configure Receiver, include the following command-line option when you install it:

- ENABLE_SSON=Yes
  Single sign-on is another term for pass-through authentication. Enabling this setting prevents Receiver from displaying a second prompt for a PIN.

Alternatively, you can perform the configuration through these policy and registry changes:

- Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > User authentication > Local user name and password
- Set SSONCheckEnabled to false in either of the following registry keys if the single sign-on component is not installed. The key prevents the Receiver authentication manager from checking for the single sign-on component, thus allowing Receiver to authenticate to StoreFront.
  HKEY_CURRENT_USER\Software\Citrix\AuthManager\protocols\integratedwindows\

  HKEY_LOCAL_MACHINE\Software\Citrix\AuthManager\protocols\integratedwindows\

Alternatively, it is possible to enable smart card authentication to Storefront instead of Kerberos. To enable smart card authentication to StoreFront instead of Kerberos, install Receiver with the command line options below. This requires administrator privileges. The machine does not need to be joined to a domain.

- /includeSSON installs single sign-on (pass-through) authentication. Enables credential caching and the use of pass-through domain-based authentication.
- If the user is logging on to the endpoint with a different method to smart card for Receiver authentication (for example, user name and password), the command line is:
  /includeSSON LOGON_CREDENTIAL_CAPTURE_ENABLE=No
  This prevents the credentials being captured at log on time and allows Receiver to store the PIN when logging on to Receiver.

- Go to Policy > Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > User Authentication > Local user name and password.
  Enable pass-through authentication. Depending on the configuration and security settings, you may need to select the

Allow pass-through authentication for all ICA option for pass-through authentication to work.

To configure StoreFront:

- When you configure the authentication service, select the Smart card check box.

For more information about using smart cards with StoreFront, refer to Configure the authentication service in the StoreFront documentation.

To enable user devices for smart card use

1. Import the certificate authority root certificate into the device's keystore.
2. Install your vendor's cryptographic middleware.
3. Install and configure Receiver for Windows.

To change how certificates are selected

By default, if multiple certificates are valid, Receiver prompts the user to choose a certificate from the list. Alternatively, you can configure Receiver to use the default certificate (per the smart card provider) or the certificate with the latest expiry date. If there are no valid logon certificates, the user is notified, and given the option to use an alternate logon method if available.

A valid certificate must have all of these characteristics:

- The current time of the clock on the local computer is within the certificate validity period.
- The Subject public key must use the RSA algorithm and have a key length of 1024, 2048, or 4096 bits.
- Key Usage must contain Digital Signature.
- Subject Alternative Name must contain the User Principal Name (UPN).
- Enhanced Key Usage must contain Smart Card Logon and Client Authentication, or All Key Usages.
- One of the Certificate Authorities on the certificate's issuer chain must match one of the permitted Distinguished Names (DN) sent by the server in the TLS handshake.

Change how certificates are selected by using either of the following methods:

- On the Receiver command line, specify the option AM_CERTIFICATESELECTIONMODE={ Prompt | SmartCardDefault | LatestExpiry }.
  Prompt is the default. For SmartCardDefault or LatestExpiry, if multiple certificates meet the criteria, Receiver prompts the user to choose a certificate.

- Add the following key value to the registry key HKCU or HKLM\Software\[Wow6432Node\]Citrix\AuthManager: CertificateSelectionMode={ Prompt | SmartCardDefault | LatestExpiry }.
  Values defined in HKCU take precedence over values in HKLM to best assist the user in selecting a certificate.

To use CSP PIN prompts

By default, the PIN prompts presented to users are provided by Receiver rather than the smart card Cryptographic Service Provider (CSP). Receiver prompts users to enter a PIN when required and then passes the PIN to the smart card CSP. If your site or smart card has more stringent security requirements, such as to disallow caching the PIN per-process or per-session, you can configure Receiver to instead use the CSP components to manage the PIN entry, including the prompt for a PIN.

Change how PIN entry is handled by using either of the following methods:

- On the Receiver command line, specify the option AM_SMARTCARDPINENTRY=CSP.
- Add the following key value to the registry key HKLM\Software\[Wow6432Node\]Citrix\AuthManager: SmartCardPINEntry=CSP.

Enabling certificate revocation list checking

Nov 19, 2014

When certificate revocation list (CRL) checking is enabled, Receiver checks whether or not the server's certificate is revoked. By forcing Citrix Receiver to check this, you can improve the cryptographic authentication of the server and the overall security of the TLS connection between a user device and a server.

You can enable several levels of CRL checking. For example, you can configure Citrix Receiver to check only its local certificate list or to check the local and network certificate lists. In addition, you can configure certificate checking to allow users to log on only if all CRLs are verified.

If you are making this change on a local computer, exit Receiver if it is running. Make sure all Citrix Receiver components, including the Connection Center, are closed.

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.
   Note: If you already imported the icaclient template into the Group Policy Editor, you can omit Steps 2 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Configuration folder for the Receiver (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > Network routing > TLS/SSL data encryption and server identification.
7. From the Action menu, choose Properties and select Enabled.
8. From the CRL verification drop-down menu, select one of the options.
   - Disabled. No certificate revocation list checking is performed.
   - Only check locally stored CRLs. CRLs that were installed or downloaded previously are used in certificate validation. Connection fails if the certificate is revoked.
   - Require CRLs for connection. CRLs locally and from relevant certificate issuers on the network are checked. Connection fails if the certificate is revoked or not found.
   - Retrieve CRLs from network. CRLs from the relevant certificate issuers are checked. Connection fails if the certificate is revoked.

   If you do not set CRL verification, it defaults to Only check locally stored CRLs.

Secure Receiver communication

Mar 03, 2015

To secure the communication between XenDesktop sites or XenApp server farms and Citrix Receiver, you can integrate your Citrix Receiver connections using security technologies such as the following:

- Citrix NetScaler Gateway (Access Gateway). For information, refer to topics in this section as well as the NetScaler Gateway, and StoreFront documentation.
  Note: Citrix recommends using NetScaler Gateway to secure communications between StoreFront servers and user devices.
- A firewall. Network firewalls can allow or block packets based on the destination address and port. If you are using Receiver through a network firewall that maps the server's internal network IP address to an external Internet address (that is, network address translation, or NAT), configure the external address.
- Trusted server configuration.
- For XenApp or Web Interface deployments only; not applicable to XenDesktop 7: A SOCKS proxy server or secure proxy server (also known as security proxy server, HTTPS proxy server). You can use proxy servers to limit access to and from your network and to handle connections between Receiver and servers. Receiver supports SOCKS and secure proxy protocols.
- For XenApp or Web Interface deployments only; not applicable to XenDesktop 7, XenDesktop 7.1, XenDesktop 7.5, or XenApp 7.5: SSL Relay solutions with Transport Layer Security (TLS) protocols.
- For XenApp 7.6 and XenDesktop 7.6, you can enable an SSL connection directly between users and VDAs. (See SSL for information about configuring SSL for XenApp 7.6 or XenDesktop 7.6.)

Citrix Receiver is compatible with and functions in environments where the Microsoft Specialized Security - Limited Functionality (SSLF) desktop security templates are used. These templates are supported on various Windows platforms. Refer to the Windows security guides available at http://technet.microsoft.com for more information about the templates and related settings.

Connect with NetScaler Gateway

Nov 10, 2014

To enable remote users to connect through NetScaler Gateway, configure NetScaler Gateway to work with StoreFront.

- For StoreFront deployments: Allow connections from internal or remote users to StoreFront through NetScaler Gateway by integrating NetScaler Gateway and StoreFront. This deployment allows users to connect to StoreFront to access virtual desktops and applications. Users connect through Receiver.

> **Note**
>
> The NetScaler Gateway End Point Analysis Plugin (EPA) does not support native Windows Receiver.

For information about configuring these connections, refer to Integrating NetScaler Gateway with XenMobile App Edition and the other topics under that node in Citrix eDocs. Information about the settings required for Receiver for Windows are in the following topics:

- Configuring Session Policies and Profiles for XenMobile App Edition
- Creating the Session Profile for Receiver for XenMobile App Edition
- Configuring Custom Clientless Access Policies for Receiver

To enable remote users to connect through NetScaler Gateway to your Web Interface deployment, configure NetScaler Gateway to work with Web Interface, as described in Providing Access to Published Applications and Virtual Desktops Through the Web Interface and its sub-topics in Citrix eDocs.

Connect with NetScaler Gateway Enterprise Edition

Aug 01, 2016

To enable remote users to connect through NetScaler Gateway, configure NetScaler Gateway to work with StoreFront and AppController (a component of CloudGateway).

- For StoreFront deployments: Allow connections from internal or remote users to StoreFront through Access Gateway by integrating Access Gateway and StoreFront. This deployment allows users to connect to StoreFront to access virtual desktops and applications. Users connect through Receiver.
- For AppController deployments: Allow connections from remote users to AppController by integrating Access Gateway and AppController. This deployment allows users to connect to AppController to obtain their web and Software as a Service (SaaS) apps and provides ShareFile Enterprise services to Receiver users. Users connect through either Receiver or the NetScaler Gateway Plug-in.

For information about configuring these connections, refer to Integrating NetScaler Gateway with CloudGateway and the other topics under that node on the Citrix Product Documentation site. Information about the settings required for Receiver for Windows are in the following topics:

- Configuring Session Policies and Profiles for CloudGateway
- Creating the Session Profile for Receiver for CloudGateway Enterprise
- Creating the Session Profile for Receiver for CloudGateway Express
- Configuring Custom Clientless Access Policies for Receiver

To enable remote users to connect through Access Gateway to your Web Interface deployment, configure Access Gateway to work with Web Interface, as described in Configuring Access Gateway Enterprise Edition to Communicate with the Web Interface and its sub-topics in Citrix eDocs.

Connect with Secure Gateway

Oct 12, 2012

This topic applies only to deployments using the Web Interface.

You can use the Secure Gateway in either Normal mode or Relay mode to provide a secure channel for communication between Receiver and the server. No Receiver configuration is required if you are using the Secure Gateway in Normal mode and users are connecting through the Web Interface.

Receiver uses settings that are configured remotely on the server running the Web Interface to connect to servers running the Secure Gateway. See the topics for the Web Interface for information about configuring proxy server settings for Receiver.

If the Secure Gateway Proxy is installed on a server in the secure network, you can use the Secure Gateway Proxy in Relay mode. See the topics for the Secure Gateway for more information about Relay mode.

If you are using Relay mode, the Secure Gateway server functions as a proxy and you must configure Receiver to use:

- The fully qualified domain name (FQDN) of the Secure Gateway server.
- The port number of the Secure Gateway server. Note that Relay mode is not supported by Secure Gateway Version 2.0.

The FQDN must list, in sequence, the following three components:

- Host name
- Intermediate domain
- Top-level domain

For example: my_computer.my_company.com is an FQDN, because it lists, in sequence, a host name (my_computer), an intermediate domain (my_company), and a top-level domain (com). The combination of intermediate and top-level domain (my_company.com) is generally referred to as the domain name.

Connect through a firewall

Oct 12, 2012

Network firewalls can allow or block packets based on the destination address and port. If you are using a firewall in your deployment, Receiver must be able to communicate through the firewall with both the Web server and Citrix server. The firewall must permit HTTP traffic (often over the standard HTTP port 80 or 443 if a secure Web server is in use) for user device to Web server communication. For Receiver to Citrix server communication, the firewall must permit inbound ICA traffic on ports 1494 and 2598.

If the firewall is configured for Network Address Translation (NAT), you can use the Web Interface to define mappings from internal addresses to external addresses and ports. For example, if your XenApp or XenDesktop server is not configured with an alternate address, you can configure the Web Interface to provide an alternate address to Receiver. Receiver then connects to the server using the external address and port number. For more information, see the Web Interface documentation.

Enforce trust relations

Nov 20, 2014

Trusted server configuration is designed to identify and enforce trust relations involved in Receiver connections. This trust relationship increases the confidence of Receiver administrators and users in the integrity of data on user devices and prevents the malicious use of Receiver connections.

When this feature is enabled, Receivers can specify the requirements for trust and determine whether or not they trust a connection to the server. For example, a Receiver connecting to a certain address (such as https://*.citrix.com) with a specific connection type (such as TLS) is directed to a trusted zone on the server.

When trusted server configuration is enabled, connected servers must reside in a Windows Trusted Sites zone. (For step-by-step instructions about adding servers to the Windows Trusted Sites zone, see the Internet Explorer online help.)

To enable trusted server configuration

If you are changing this on a local computer, close all Receiver components, including the Connection Center.

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.
   Note: If you already imported the icaclient template into the Group Policy Editor, you can omit Steps 2 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Receiver Configuration folder (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. Expand the Administrative Templates folder under the User Configuration node.
7. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > Network Routing > Configure trusted server configuration.
8. From the Action menu, choose Properties and select Enabled.

Elevation level and wfcrun32.exe

May 01, 2013

When User Access Control (UAC) is enabled on devices running Windows 8, Windows 7, or Windows Vista, only processes at the same elevation/integrity level as wfcrun32.exe can launch virtual applications.

Example 1:

When wfcrun32.exe is running as a normal user (un-elevated), other processes such as Receiver must be running as a normal user to launch applications through wfcrun32.

Example 2:

When wfcrun32.exe is running in elevated mode, other processes such as Receiver, Connection Center, and third party applications using the ICA Client Object that are running in non-elevated mode cannot communicate with wfcrun32.exe.

Connect Receiver through a proxy server

Jan 02, 2013

This topic applies only to deployments using Web Interface.

Proxy servers are used to limit access to and from your network, and to handle connections between Receivers and servers. Receiver supports SOCKS and secure proxy protocols.

When communicating with the server farm, Receiver uses proxy server settings that are configured remotely on the server running Receiver for Web or the Web Interface. For information about proxy server configuration, refer to StoreFront or Web Interface documentation.

In communicating with the Web server, Receiver uses the proxy server settings that are configured through the Internet settings of the default Web browser on the user device. You must configure the Internet settings of the default Web browser on the user device accordingly.

Connect with Secure Sockets Layer (SSL) Relay

Oct 05, 2016

This topic applies to XenDesktop 7.6 or later or XenApp 7.5 only.

You can integrate Receiver with the Secure Sockets Layer (SSL) Relay service. Receiver supports TLS protocols. Receiver for Windows 4.2 supports TLS 1.0 only.

- TLS (Transport Layer Security) is the latest, standardized version of the SSL protocol. The Internet Engineering Taskforce (IETF) renamed it TLS when it took over responsibility for the development of SSL as an open standard. TLS secures data communications by providing server authentication, encryption of the data stream, and message integrity checks. Some organizations, including U.S. government organizations, require the use of TLS to secure data communications. These organizations may also require the use of validated cryptography, such as FIPS 140 (Federal Information Processing Standard). FIPS 140 is a standard for cryptography.

Connecting with Citrix SSL Relay

This topic applies to XenDesktop 7.6 or later or XenApp 7.5 only.

By default, Citrix SSL Relay uses TCP port 443 on the XenApp server for TLS-secured communication. When the SSL Relay receives an TLS connection, it decrypts the data before redirecting it to the server, or, if the user selects TLS+HTTPS browsing, to the Citrix XML Service.

If you configure SSL Relay to listen on a port other than 443, you must specify the nonstandard listening port number to the plug-in.

You can use Citrix SSL Relay to secure communications:

- Between an TLS-enabled client and a server. Connections using TLS encryption are marked with a padlock icon in the Citrix Connection Center.
- With a server running the Web Interface, between the XenApp server and the Web server.

For information about configuring SSL Relay to secure your installation, refer to the XenApp documentation.

User device requirements

In addition to the System Requirements, you also must ensure that:

- The user device supports 128-bit encryption
- The user device has a root certificate installed that can verify the signature of the Certificate Authority on the server certificate
- Receiver is aware of the TCP listening port number used by the SSL Relay service in the server farm
- Any service packs or upgrades that Microsoft recommends are applied

If you are using Internet Explorer and you are not certain about the encryption level of your system, visit the Microsoft Web site at http://www.microsoft.com to install a service pack that provides 128-bit encryption.

Important: Receiver supports certificate key lengths of up to 4096 bits. Ensure that the bit lengths of your Certificate Authority root and intermediate certificates, and those of your server certificates, do not exceed the bit length your Receiver supports or connection might fail.

To apply a different listening port number for all connections

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.
   Note: If you already imported the icaclient template into the Group Policy Editor, you can omit Steps 2 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the plug-in Configuration folder (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > Network routing > TLS/SSL data encryption and server identification.
7. From the Action menu, choose Properties, select Enabled, and type a new port number in the Allowed SSL servers text box in the following format: server:SSL relay port number where SSL relay port number is the number of the listening port. You can use a wildcard to specify multiple servers. For example, *.Test.com:SSL relay port number matches all connections to Test.com through the specified port.

To apply a different listening port number to particular connections only

If you are changing this on a local computer, close all Receiver components, including the Connection Center.

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.
   Note: If you already added the icaclient template to the Group Policy Editor, you can omit Steps 2 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Receiver Configuration folder (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > Network routing > TLS/SSL data encryption and server identification.
7. From the Action menu, choose Properties, select Enabled, and type a comma-separated list of trusted servers and the new port number in the Allowed SSL servers text box in the following format: servername:SSL relay port number,servername:SSL relay port number where SSL relay port number is the number of the listening port. You can specify a comma-separated list of specific trusted SSL servers similar to this example:

   csghq.Test.com:443,fred.Test.com:443,csghq.Test.com:444
   which translates into the following in an example appsrv.ini file: [Word]
   SSLProxyHost=csghq.Test.com:443

   [Excel]
   SSLProxyHost=csghq.Test.com:444

   [Notepad]
   SSLProxyHost=fred.Test.com:443

Configuring and enabling Receivers for TLS

Oct 05, 2016

This topic applies to XenDesktop 7.6 or later or XenApp 7.5 only.

To force Receiver to connect with TLS, you must specify TLS on the Secure Gateway server or SSL Relay service. See the topics for the Secure Gateway or your SSL Relay service documentation for more information.

In addition, make sure the user device meets all system requirements.

To use TLS encryption for all Receiver communications, configure the user device, Receiver, and, if using Web Interface, the server running the Web Interface. For information about securing StoreFront communications, refer to topics under "Secure" in the StoreFront documentation in Citrix Product documentation.

Install root certificates on user devices

To use TLS to secure communications between a TLS-enabled Receiver and the server farm, you need a root certificate on the user device that can verify the signature of the Certificate Authority on the server certificate.

Receiver supports the Certificate Authorities that are supported by the Windows operating system. The root certificates for these Certificate Authorities are installed with Windows and managed using Windows utilities. They are the same root certificates that are used by Microsoft Internet Explorer.

If you use your own Certificate Authority, you must obtain a root certificate from that Certificate Authority and install it on each user device. This root certificate is then used and trusted by both Microsoft Internet Explorer and Receiver.

You might be able to install the root certificate using other administration or deployment methods, such as:

- Using the Microsoft Internet Explorer Administration Kit (IEAK) Configuration Wizard and Profile Manager
- Using third-party deployment tools

Make sure that the certificates installed by your Windows operating system meet the security requirements for your organization or use the certificates issued by your organization's Certificate Authority.

To configure Web Interface to use TLS for Receiver

1. To use TLS to encrypt application enumeration and launch data passed between Receiver and the server running the Web Interface, configure the appropriate settings using the Web Interface. You must include the computer name of the XenApp server that is hosting the SSL certificate.
2. To use secure HTTP (HTTPS) to encrypt the configuration information passed between Receiver and the server running the Web Interface, enter the server URL in the format https://servername. In the Windows notification area, right-click the Receiver icon and choose Preferences.
3. Right-click the Online Plug-in entry in the Plug-in Status and choose Change Server.

To configure TLS support

If you are changing this on a local computer, close all Receiver components, including the Connection Center.

1. As an administrator, open the Group Policy Editor by running gpedit.msc locally from the Start menu when applying this to a single computer or by using the Group Policy Management Console when using Active Directory.
   Note: If you already imported the icaclient template into the Group Policy Editor, you can omit Steps 2 to 5
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.

3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Receiver Configuration folder (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > Network routing > TLS/SSL data encryption and server identification.
7. From the Action menu, choose Properties, select Enabled, and from the drop-down menus, select the TLS settings.
   - Set TLS Version to TLS or Detect all to enable TLS. If Detect all is selected, Receiver connects using TLS encryption.
   - Set SSL cipher suite to Detect version to have Receiver negotiate a suitable cipher suite from the Government and Commercial cipher suits. You can restrict the cipher suites to either Government or Commercial.
   - Set CRL verification to Require CRLs for connection requiring Receiver to try to retrieve Certificate Revocation Lists (CRLs) from the relevant certificate issuers.

To use the Group Policy template on Web Interface to meet FIPS 140 security requirements

If you are changing this on a local computer, close all Receiver components, including the Connection Center.
To meet FIPS 140 security requirements, use the Group Policy template to configure the parameters or include the parameters in the Default.ica file on the server running the Web Interface. See the information about Web Interface for additional information about the Default.ica file.

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.
   Note: If you already imported the icaclient template into the Group Policy Editor, you can omit Steps 3 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Receiver Configuration folder (usually C:\Program Files\Citrix\ICA Client\Configuration) and select icaclient.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver > Network routing > TLS/SSL data encryption and server identification.
7. From the Action menu, choose Properties, select Enabled, and from the drop-down menus, select the correct settings.
   - Set TLS Version to TLS or Detect all to enable TLS. If Detect all is selected, Receiver tries to connect using TLS encryption.
   - Set SSL ciphersuite to Government.
   - Set CRL verification to Require CRLs for connection.

To configure the Web Interface to use TLS when communicating with Citrix Receiver

When using the Web Interface, specify the computer name of the server hosting the SSL certificate. See the information about Web Interface for more details about using TLS to secure communications between Receiver and the Web server.

1. From the Configuration settings menu, select Server Settings.
2. Select Use SSL/TLS for communications between clients and the Web server.
3. Save your changes.

Selecting SSL/TLS changes all URLs to use HTTPS protocol.

To configure Citrix XenApp to use TLS when communicating with Citrix Receiver

You can configure the XenApp server to use TLS to secure the communications between Receiver and the server.

1. From the Citrix management console for the XenApp server, open the Properties dialog box for the application you want to secure.
2. Select Advanced > Client options and ensure that you select Enable SSL and TLS protocols.
3. Repeat these steps for each application you want to secure.

When using the Web Interface, specify the computer name of the server hosting the SSL certificate. See the information about Web Interface for more details about using TLS to secure communications between Receiver and the Web server.

To configure Citrix Receiver to use TLS when communicating with the server running the Web Interface

You can configure Receiver to use TLS to secure the communications between Receiver and the server running the Web Interface.

Ensure that a valid root certificate is installed on the user device. For more information, see Install root certificates on user devices.

1. In the Windows notification area, right-click the Receiver icon and choose Preferences.
2. Right-click the Online Plug-in entry in the Plug-in Status and choose Change Server.
3. The Change Server screen displays the currently configured URL. Enter the server URL in the text box in the format https://servername to encrypt the configuration data using TLS.
4. Click Update to apply the change.
5. Enable TLS in the user device browser. For more information, see the online Help for the browser.

ICA File Signing to protect against application or desktop launches from untrusted servers

Nov 19, 2014

This topic applies only to deployments with Web Interface using Administrative Templates.

The ICA File Signing feature helps protect users from unauthorized application or desktop launches. Citrix Receiver verifies that a trusted source generated the application or desktop launch based on administrative policy and protects against launches from untrusted servers. You can configure this Receiver security policy for application or desktop launch signature verification using Group Policy Objects, StoreFront, or Citrix Merchandising Server. ICA file signing is not enabled by default. For information about enabling ICA file signing for StoreFront, refer to the StoreFront documentation.

For Web Interface deployments, the Web Interface enables and configures application or desktop launches to include a signature during the launch process using the Citrix ICA File Signing Service. The service can sign ICA files using a certificate from the computer's personal certificate store.

The Citrix Merchandising Server with Receiver enables and configures launch signature verification using the Citrix Merchandising Server Administrator Console > Deliveries wizard to add trusted certificate thumbprints.

To use Group Policy Objects to enable and configure application or desktop launch signature verification, follow this procedure:

1. As an administrator, open the Group Policy Editor by either running gpedit.msc locally from the Start menu when applying policies to a single computer or by using the Group Policy Management Console when applying domain policies.
   Note: If you already imported the ica-file-signing.adm template into the Group Policy Editor, you can omit Steps 2 to 5.
2. In the left pane of the Group Policy Editor, select the Administrative Templates folder.
3. From the Action menu, choose Add/Remove Templates.
4. Choose Add and browse to the Receiver Configuration folder (usually C:\Program Files\Citrix\ICA Client\Configuration) and select ica-file-signing.adm.
5. Select Open to add the template and then Close to return to the Group Policy Editor.
6. In the Group Policy Editor, go to Administrative Templates > Classic Administrative Templates (ADM) > Citrix Components > Citrix Receiver and navigate to Enable ICA File Signing.
7. If you choose Enabled, you can add signing certificate thumbprints to the white list of trusted certificate thumbprints or remove signing certificate thumbprints from the white list by clicking Show and using the Show Contents screen. You can copy and paste the signing certificate thumbprints from the signing certificate properties. Use the Policy drop-down menu to select Only allow signed launches (more secure) or Prompt user on unsigned launches (less secure).

Option	Description
Only allow signed launches (more secure)	Allows only properly signed application or desktop launches from a trusted server. The user sees a Security Warning message in Receiver if an application or desktop launch has an invalid signature. The user cannot continue and the unauthorized launch is blocked.
Prompt user on unsigned launches (less secure)	Prompts the user every time an unsigned or invalidly signed application or desktop attempts to launch. The user can either continue the application launch or abort the launch (default).

Option	Description

To select and distribute a digital signature certificate

When selecting a digital signature certificate, Citrix recommends you choose from this prioritized list:

1. Buy a code-signing certificate or SSL signing certificate from a public Certificate Authority (CA).
2. If your enterprise has a private CA, create a code-signing certificate or SSL signing certificate using the private CA.
3. Use an existing SSL certificate, such as the Web Interface server certificate.
4. Create a new root CA certificate and distribute it to user devices using GPO or manual installation.

Configure a Web browser and ICA file to enable single sign-on and manage secure connections to trusted servers

Dec 02, 2012

This topic applies only to deployments using Web Interface.

To use Single sign-on (SSO) and to manage secure connections to trusted servers, add the Citrix server's site address to the Local intranet or Trusted sites zones in Internet Explorer under Tools > Internet Options > Security on the user device. The address can include the wildcard (*) formats supported by the Internet Security Manager (ISM) or be as specific as protocol\://URL[:port].

The same format must be used in both the ICA file and the sites entries. For example, if you use a fully qualified domain name (FQDN) in the ICA file, you must use an FQDN in the sites zone entry. XenDesktop connections use only a desktop group name format.

Supported formats (including wildcards)

http[s]://10.2.3.4

http[s]://10.2.3.*

http[s]://hostname

http[s]://fqdn.example.com

http[s]://*.example.com

http[s]://cname.*.example.com

http[s]://*.example.co.uk

desktop://group-20name

ica[s]://xaserver1

ica[s]://xaserver1.example.com

Launch SSO or use secure connections with a Web site

Add the exact address of the Web Interface site in the sites zone.

Example Web site addresses

https://my.company.com

http://10.20.30.40

http://server-hostname:8080

https://SSL-relay:444

XenDesktop connections with Desktop Viewer

Add the address in the form desktop://Desktop Group Name. If the desktop group name contains spaces, replace each space with -20.

Custom ICA entry formats

Use one of the following formats in the ICA file for the Citrix server site address. Use the same format to add it to the Local intranet or Trusted sites zones in Internet Explorer under Tools > Internet Options > Security on the user device:

Example of ICA file HttpBrowserAddress entry

HttpBrowserAddress=XMLBroker.XenappServer.example.com:8080

Examples of ICA file XenApp server address entries

If the ICA file contains only the XenApp server **Address** field, use one of the following entry formats:

icas://10.20.30.40:1494

icas://my.xenapp-server.company.com

ica://10.20.30.40

To set client resource permissions

Oct 30, 2014

This topic applies only to deployments using Web Interface.

You can set client resource permissions using trusted and restricted site regions by:

- Adding the Web Interface site to the Trusted Site list
- Making changes to new registry settings

> ## Note
>
> Due to recent enhancements to Citrix Receiver, the .ini procedure available in earlier versions of the plug-in/Receiver is replaced with these procedures.

> ## Warning
>
> Editing the registry incorrectly can cause serious problems that may require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.

1. From the Internet Explorer Tools menu, choose Internet Options > Security.
2. Select the Trusted sites icon and click the Sites button.
3. In the Add this website to the zone text field, type the URL to your Web Interface site and click Add.
4. Download the registry settings from http://support.citrix.com/article/CTX133565 and make any registry changes. Use SsonRegUpx86.reg for Win32 user devices and SsonRegUpx64.reg for Win64 user devices.
5. Log off and then log on to the user device.

1. Download the registry settings from http://support.citrix.com/article/CTX133565 and import the settings on each user device. Use SsonRegUpx86.reg for Win32 user devices and SsonRegUpx64.reg for Win64 user devices.
2. In the registry editor, navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA Client\Client Selective Trust and in the appropriate regions, change the default value to the required access values for any of the following resources:

Resource key	Resource description
FileSecurityPermission	Client drives
MicrophoneAndWebcamSecurityPermission	Microphones and webcams
ScannerAndDigitalCameraSecurityPermission	USB and other devices

Resource key	Resource description

Value	Description
0	No Access
1	Read-only access
2	Full access
3	Prompt user for access

When Citrix Receiver is enumerating applications and communicating with Storefront, Windows platform cryptography is used.

For TCP connections between Citrix Receiver and XenApp/XenDesktop, Citrix Receiver supports TLS 1.0, 1.1 and 1.2 with the following cipher suites:

- TLS_RSA_WITH_AES_256_CBC_SHA
- TLS_RSA_WITH_AES_128_CBC_SHA
- TLS_RSA_WITH_RC4_128_SHA
- TLS_RSA_WITH_RC4_128_MD5
- TLS_RSA_WITH_3DES_EDE_CBC_SHA
- TLS_RSA_WITH_AES_256_GCM_SHA384
- TLS_RSA_WITH_AES_128_GCM_SHA256

For UDP based connections Citrix Receiver supports DTLS 1.0 with the following cipher suites:

- TLS_RSA_WITH_AES_256_CBC_SHA
- TLS_RSA_WITH_AES_128_CBC_SHA
- TLS_RSA_WITH_3DES_EDE_CBC_SHA

Enable SP 800-52 compliance mode

[edit this section - use previously created FIPS info and leverage new UI image in DAM]

A new check box has been introduced under Computer Configuration - > Administrate Templates-> Citrix Components - > Network Routing -> TLS and Compliance Mode Configuration, called Enable FIPS. This will ensure that only FIPS approved cryptography is used for all ICA connections. By fault this option will be disabled or unchecked.

A new Security Compliance Mode is introduced called SP 800-52. By fault this option will be NONE and is not enabled. Please follow the link that describes the compliance required for NIST SP 800-52:- http://www.nist.gov/manuscript-publication-search.cfm?pub_id=915295.

The SP800-52 compliance mode requires FIPS Compliance. When SP800-52 is enabled FIPS mode is also enabled regardless of the FIPS setting. The allowed 'Certificate Revocation Check policy' values are either 'Full access check and CRL required' or 'Full access check and CRL required All'.

Limiting TLS versions and cipher suites

You can configure Citrix Receiver to limit TLS versions and cipher suites. An option is provided to select the allowed TLS protocol versions, which determines TLS protocol for ICA connections. Highest and mutually available TLS version between Client and Server will be selected. Options include:

- TLS 1.0 | TLS 1.1 | TLS 1.2 (default).
- TLS 1.1 | TLS 1.2
- TLS 1.2

An option is available for TLS cipher suite selection. Citrix Receiver can choose between:

- Any
- Commercial
- Government

Commercial Cipher suites

- TLS_RSA_WITH_AES_128_GCM_SHA256
- TLS_RSA_WITH_AES_128_CBC_SHA
- TLS_RSA_WITH_RC4_128_SHA
- TLS_RSA_WITH_RC4_128_MD5

Government Cipher suites

- TLS_RSA_WITH_AES_256_GCM_SHA384
- TLS_RSA_WITH_AES_128_GCM_SHA256
- TLS_RSA_WITH_AES_256_CBC_SHA
- TLS_RSA_WITH_3DES_EDE_CBC_SHA

> ### Note
>
> If **Require TLS for all connections** is enabled, connection requests to Storefront must also adhere to HTTPS; adding a store as HTTP fails, and non-SSL VDA (XenDesktop and XenApp) cannot be launched.

Receiver Desktop Lock

Aug 09, 2016

You can use the Receiver Desktop Lock when users do not need to interact with the local desktop. Users can still use the Desktop Viewer (if enabled), however it has only the required set of options on the toolbar: Ctrl+Alt+Del, Preferences, Devices, and Disconnect.

Citrix Receiver Desktop Lock works on domain-joined machines, which are SSON-enabled (Single Sign-On) and store configured; it can also be used on non-domain joined machines without SSON enabled. It does not support PNA sites. Previous versions of Desktop Lock are not supported when you upgrade to Receiver for Windows 4.2.x.

You must install Citrix Receiver for Windows with the /includeSSON flag. You must configure the store and single sign-on, either using the adm/admx file or cmdline option. For more information, refer to Install and configure Citrix Receiver using the command line.

Then, install the Receiver Desktop Lock as an administrator using the CitrixReceiverDesktopLock.MSI available at citrix.com/downloads.

System requirements for Citrix Receiver Desktop Lock

- Supported on Windows 7 (including Embedded Edition), Windows 7 Thin PC, Windows 8, and Windows 8.1.
- User devices must be connected to a local area network (LAN) or wide area network (WAN).

Local App Access

> **Important**
>
> Enabling Local App Access may permit local desktop access, unless a full lock down has been applied with the Group Policy Object template, or a similar policy. See Configure Local App Access and URL redirection in XenApp and XenDesktop for more information.

Working with Receiver Desktop Lock

- You can use Receiver Desktop Lock with the following Receiver for Windows features:
  - 3Dpro, Flash, USB, HDX Insight, Microsoft Lync 2013 plug-in, and local app access
  - Domain, two-factor, or smart card authentication only
- Disconnecting the Receiver Desktop Lock session logs out the end device.
- Flash redirection is disabled on Windows 8 and later versions. Flash redirection is enabled on Windows 7.
- The Desktop Viewer is optimized for Receiver Desktop Lock with no Home, Restore, Maximize, and Display properties.
- Ctrl+Alt+Del is available on the Viewer toolbar.
- Most windows shortcut keys are passed to the remote session, with the exception of Windows+L. For details, see Passing Windows shortcut keys to the remote session.
- Ctrl+F1 triggers Ctrl+Alt+Del when you disable the connection or Desktop Viewer for desktop connections.

This procedure installs Receiver for Windows so that virtual desktops appear using Receiver Desktop Lock. For deployments that use smart cards, see To configure smart cards for use with devices running Receiver Desktop Lock.

1. Log on using a local administrator account.
2. At a command prompt, run the following command (located in the Citrix Receiver and Plug-ins > Windows > Receiver folder on the installation media).
   For example:
   CitrixReceiver.exe
   /includeSSON
   STORE0="*DesktopStore*;https://*my.storefront.server*/Citrix/MyStore/discovery;on;*Desktop Store*"
   For command details, see the Receiver for Windows install documentation at Configure and install Receiver for Windows using command-line parameters.
3. In the same folder on the installation media, double-click CitrixReceiverDesktopLock.MSI . The Desktop Lock wizard opens. Follow the prompts.
4. When the installation completes, restart the user device. If you have permission to access a desktop and you log on as a domain user, the device appears using Receiver Desktop Lock.

To allow administration of the user device after installation, the account used to install CitrixReceiverDesktopLock.msi is excluded from the replacement shell. If that account is later deleted, you will not be able to log on and administer the device.

To run a **silent install** of Receiver Desktop Lock, use the following command line: msiexec /i CitrixReceiverDesktopLock.msi /qn

Grant access to only one virtual desktop running Receiver Desktop Lock per user.

Using Active Directory policies, prevent users from hibernating virtual desktops.

Use the same administrator account to configure Receiver Desktop Lock as you did to install it.

- Ensure that the Receiver.admx (or Receiver.adml) and Receiver_usb.admx (.adml) files are loaded into Group Policy (where the policies appear in Computer Configuration or User Configuration > Administrative Templates > Classic Administrative Templates (ADMX) > Citrix Components). The .admx files are located in %Program Files%\Citrix\ICA Client\Configuration\.
- USB preferences - When a user plugs in a USB device, that device is automatically remoted to the virtual desktop; no user interaction is required. The virtual desktop is responsible for controlling the USB device and displaying it in the user interface.
  - Enable the USB policy rule.
  - In Citrix Receiver > Remoting client devices > Generic USB Remoting, enable and configure the Existing USB Devices and New USB Devices policies.
- Drive mapping - In Citrix Receiver > Remoting client devices, enable and configure the Client drive mapping policy.
- Microphone - In Citrix Receiver > Remoting client devices, enable and configure the Client microphone policy.

1. Configure StoreFront.
   1. Configure the XML Service to use DNS Address Resolution for Kerberos support.
   2. Configure StoreFront sites for HTTPS access, create a server certificate signed by your domain certificate authority, and add HTTPS binding to the default website.
   3. Ensure pass-through with smart card is enabled (enabled by default).
   4. Enable Kerberos.
   5. Enable Kerberos and Pass-through with smart card.

6. Enable Anonymous access on the IIS Default Web Site and use Integrated Windows Authentication.
7. Ensure the IIS Default Web Site does not require SSL and ignores client certificates.

2. Use the Group Policy Management Console to configure Local Computer Policies on the user device.
   1. Import the Receiver.admx template from %Program Files%\Citrix\ICA Client\Configuration\.
   2. Expand Administrative Templates > Classic Administrative Templates (ADMX) > Citrix Components > Citrix Receiver > User authentication.
   3. Enable Smart card authentication.
   4. Enable Local user name and password.
3. Configure the user device before installing Receiver Desktop Lock.
   1. Add the URL for the Delivery Controller to the Windows Internet Explorer Trusted Sites list.
   2. Add the URL for the first Delivery Group to the Internet Explorer Trusted Sites list in the form desktop://delivery-group-name.
   3. Enable Internet Explorer to use automatic logon for Trusted Sites.

When Receiver Desktop Lock is installed on the user device, a consistent smart card removal policy is enforced. For example, if the Windows smart card removal policy is set to Force logoff for the desktop, the user must log off from the user device as well, regardless of the Windows smart card removal policy set on it. This ensures that the user device is not left in an inconsistent state. This applies only to user devices with the Receiver Desktop Lock.

Be sure to remove both of the components listed below.

1. Log on with the same local administrator account that was used to install and configure Receiver Desktop Lock.
2. From the Windows feature for removing or changing programs:
   - Remove Citrix Receiver Desktop Lock.
   - Remove Citrix Receiver.

Most windows shortcut keys are passed to the remote session. This section highlights some of the common ones.

Windows

- Win+D - Minimize all windows on the desktop.
- Alt+Tab - Change active window.
- Ctrl+Alt+Delete - via Ctrl+F1 and the Desktop Viewer toolbar.
- Alt+Shift+Tab
- Windows+Tab
- Windows+Shift+Tab
- Windows+All Character keys

Windows 8

- Win+C - Open charms.
- Win+Q - Search charm.
- Win+H - Share charm.
- Win+K - Devices charm.
- Win+I - Settings charm.
- Win+Q - Search apps.
- Win+W - Search settings.
- Win+F - Search files.

Windows 8 apps

- Win+Z - Get to app options.
- Win+. - Snap app to the left.
- Win+Shift+. - Snap app to the right.
- Ctrl+Tab - Cycle through app history.
- Alt+F4 - Close an app.

Desktop

- Win+D - Open desktop.
- Win+, - Peek at desktop.
- Win+B - Back to desktop.

Other

- Win+U - Open Ease of Access Center.
- Ctrl+Esc - Start screen.
- Win+Enter - Open Windows Narrator.
- Win+X - Open system utility settings menu.
- Win+PrintScrn - Take a screen shot and save to pictures.
- Win+Tab - Open switch list.
- Win+T - Preview open windows in taskbar.

SDK and API for Citrix Receiver for Windows

Apr 05, 2017

Citrix Virtual Channel SDK

The Citrix Virtual Channel software development kit (SDK) supports writing server-side applications and client-side drivers for additional virtual channels using the ICA protocol. The server-side virtual channel applications are on XenApp or XenDesktop servers. This version of the SDK supports writing new virtual channels for Receiver for Windows. If you want to write virtual drivers for other client platforms, contact Citrix Technical support.

The Virtual Channel SDK provides:

- The Citrix Virtual Driver Application Programming Interface (VDAPI) is used with the virtual channel functions in the Citrix Server API SDK (WFAPI SDK) to create new virtual channels. The virtual channel support provided by VDAPI makes it easy to write your own virtual channels.
- The Windows Monitoring API, which enhances the visual experience and support for third-party applications integrated with ICA.
- Working source code for virtual channel sample programs to demonstrate programming techniques.
- The Virtual Channel SDK requires the WFAPI SDK to write the server side of the virtual channel.

For more information on SDK, see Citrix Virtual Channel SDK for Citrix Receiver for Windows.

Fast Connect 3 Credential Insertion API

The Fast Connect 3 Credential Insertion API provides an interface that supplies user credentials to the Single Sign-on (SSON) feature.This feature is available from Citrix Receiver for Windows Version 4.2 and later. Using this API, Citrix partners can provide authentication and SSO products that use StoreFront or the Web Interface to log users on to virtual applications or desktops and then disconnect users from those sessions.

For more information on Fast Connect API, see Fast Connect 3 Credential Insertion API for Citrix Receiver for Windows.