

vSpace Pro Enterprise Edition for Windows

Version 12.3.0

RELEASE NOTES

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PRODUCT RELEASE NOTES: NCOMPUTING VSPACE PRO ENTERPRISE EDITION

Product: NComputing vSpace Pro Enterprise Edition for Windows

Version: 12.3.0

Supported Operating Systems*:

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 R2 U1
- Windows Server 2012
- Windows Server 2008 R2 SP1
- MultiPoint Services Role - Windows Server 2016
- Windows MultiPoint Server 2012
- Windows MultiPoint Server 2011
- Windows 10 Enterprise Edition (64-bit, up to version 1903)
- Windows 10 Pro Edition (64-bit, up to version 1903)
- Windows 8.1 (64-bit)
- Windows 7 SP1 (64-bit)

Supported NComputing Access Devices and Clients:

- LEAF OS 2.0.6 (repurpose old x86/x64 PCs and laptops)
- RX300 with firmware version 3.6.5
- L250, L300 and L350 (L-series) with firmware version 1.15.8 or newer
- M300, MX100S and MX100D (M/MX-series) with firmware version 2.4.8
- vSpace Pro Client for Windows**, version 2.5.1
- vSpace Pro Client for Chromebook**, version 1.2.0.31

* For licensing details, see: <http://www.ncomputing.com/mslicensing>.

** vSpace Client is supported for desktop session delivery only and does not include the management options available for other access devices.

Supported Server OS variants include: Standard, Enterprise, and Datacenter.

Note that only 64-bit versions of Windows operating systems are supported.

The following notes contain important information. Please read this entire document to ensure that your installation and deployment process goes smoothly.

ABOUT THIS RELEASE:

vSpace Pro Enterprise Edition is the focal point for future enhancements and development for the vSpace Pro family. vSpace Pro Enterprise Edition includes advanced features such as scalability improvements for large deployments, latest Windows OS support including Windows Server 2019, multi-touch monitor support and more. This vSpace Pro Enterprise Edition is available only for NComputing customers who are in compliance with the Annual Maintenance Program (AMP) plans. Customers who are not in compliance with the AMP plan will be limited to a maximum of 5 concurrent terminal sessions only.

Please use the following link to learn more about NComputing's Annual Maintenance Program (AMP) and its benefits:

<https://www.ncomputing.com/products/vSpace/vSpace%20PRO%20AMP>

Please review the [NComputing software end-user license agreement](#).

NEW PRODUCT FEATURES, CHANGES, AND IMPROVEMENTS (12.3.0)

vSpace Pro Enterprise Edition version 12.3.0 is a major product release that replaces the previously released version 12.2.2, as well as all earlier Enterprise Edition versions. This version carries over all features and enhancements from the previous vSpace Pro Enterprise release versions.

vSpace Pro Enterprise Edition version 12.3.0 comes with the following enhancements and bug fixes:

vSpace Server component:

- Support for repurposed PCs and laptops running NComputing LEAF OS.
- New NComputing display driver (based on the Remote Indirect Display Driver model) to ensure compatibility with upcoming Windows OS updates.

vSpace Console improvements:

- Ability to manage repurposed PCs and laptops running NComputing LEAF OS, which includes LEAF OS user session management, LEAF OS device management and firmware updates.

Following are the new product features introduced in RX300 firmware version 3.6.5 which comes with vSpace Pro Enterprise Edition (12.3.0) release:

- Troubleshooting information collector tool

Other improvements introduced in RX300 firmware version 3.6.5:

- Improved device configuration settings applying routines for PMC
- VERDE client improvement to report more device details to VERDE server

The following RX300 firmware issues have been fixed in version 3.6.5:

- RX-1755 - Inaccurate message about 'Empty group' after applying profile from vSpace Console.
- RX-1753 - User authentication may fail in RDP Client mode when user name is specified as UPN.
- RX-1752 - RemoteApp connection fails when RD Session Host is using a non-standard port number.

PREVIOUS RELEASE NOTES (VSPACE PRO ENTERPRISE EDITION 12.2.2)

vSpace Pro Enterprise Edition (version 12.2.2) is a maintenance update that replaces vSpace Pro Enterprise Edition (version 12.1.0) and earlier Enterprise Edition versions.

This latest version comes with the following enhancements and bug fixes:

vSpace Server component:

- (RDSL-7231) Fixed the issue where installing vSpace Pro Enterprise Edition on Windows Server 2008 R2 host machine would result in black screen when manually login on the host machine.

vSpace Console improvements:

- Fixed an issue where vSpace Console could not connect to vSpace Manager in Windows Server 2008 R2 and Windows 7.
- (VCON-947) Improved RX300 serial number presentation in vSpace Console.
- Additional performance optimization and stability improvement.

Following are the new product features introduced in RX300 firmware version 3.6.0 which comes with vSpace Pro Enterprise Edition (12.2.2) release:

- 802.1x network authentication support on Ethernet interface.
- Remote Desktop Gateway support for RDP connections.
- Native redirection of ReinerSCT cyberJack smart card readers.
- Support for vSpace for Linux.
- User experience settings for RDP connections.
- Date and time saving on device shutdown and restoring on device bootup.
- History collection for manually entered RemoteApp RD Web Access URLs.

Other improvements introduced in RX300 firmware version 3.6.0:

- FreeRDP client updated to the latest stable version.
- Username field validation in Kiosk Mode / User auto-logon configuration.
- Username field auto-population on logon screens.
- Domain field auto-population on RDP/RemoteApp logon screen.
- Improved input fields focusing rules on logon screens.
- Improved error handling when RemoteApp support is enabled.
- Internet Proxy support for VERDE VDI connections.

- Support for ext2, ext3, and ext4 file systems on locally mounted USB storage devices (used for native redirection or installation of certificates).
- Updated NComputing Pi Zero SDA firmware.
- Network connection loss detection for vSpace sessions.
- Increased video playback smoothness during vCAST Media Streaming with VLC player 3.0.6.
- Displaying the wallpaper during firmware update installation.
- Cosmetic changes and spelling improvements in the GUI.

The following RX300 firmware issues have been fixed in version 3.6.0:

- RX-1732 - Dual screen: When using touchscreen as primary display with position set to 'Second' and the Pi0 SDA as secondary display the touchscreen events are applied to secondary display.
- RX-1731 - Device fails to connect to PMC through auto-detected address when the DHCP reply is delayed.
- RX-1730 - Possibility to freeze the RX300 device when user presses the Sleep button when the auto-connect countdown reaches zero
- RX-1722 - Unplugging Ethernet when vSpace client is connected to vSpace Server ends with frozen session.
- RX-1715 - Device gets stuck without GUI when HTTP URL will be specified as RD Web Access URL.
- RX-1673 - WiFi interface remains active after scanning WiFi networks.
- RX-1665 - Touchscreen doesn't work when USB SDA adapter is connected.
- RX-1655 - Syslog gets spammed with "'action 17' suspended" messages.
- RX-1654 - Kiosk Mode application and application directory are not excluded from xfreerdp arguments when launching RDP RemoteApp programs.
- RX-1649 - Setup GUI allows saving an empty administrator password.
- RX-1643 - Green LED does not indicate SD card activity anymore after using the sleep/power button to wake the device up from sleep mode.
- RX-1641 - USB composite devices do not redirect into VERDE/RDP sessions (with Incentives Pro VID:PID list redirection)
- RX-1639 - [Dual display] RX300 + Pi0 SDA: session disconnect in less than a minute from logon.
- RX-1631 - Some keyboard shortcuts are blocking mouse and keyboard events.
- RX-1630 - User does not get logged out from RemoteApp list if screen saver action is set to "Disconnect sessions..."
- RX-1629 - ntfs-3g deb package for NTFS filesystem will not be installed if firmware update starts on firmware older than version 3.2.16.
- RX-1628 - Loss of PMC connection after disabling WiFi if autodiscovered PMC address was in use.
- RX-1626 - Device is collecting wallpapers instead of replacing old wallpaper with the new one.
- RX-1619 - VNC screen shadowing stops working after display resolution change.
- RX-1607 - Inability to use VNC if it was turned on at the same time when reconfiguring screen resolution.
- RX-1602 - RemoteApp: All icons presented by task-switcher are identical.

- RX-1595 - vCAST Web Streaming waits in infinite loop on some Vimeo videos.
- RX-1591 - DisplayLink adapter doesn't work after waking the device up from sleep mode.

Previous release notes (vspace pro enterprise edition 12.1.0 vSpace Pro Enterprise Edition (version 12.1.0) is a maintenance update that replaces vSpace Pro Enterprise Edition (version 12.0.2) with the following enhancements and bug fixes:

- vSpace Server:
 - RDSL-7200 - Support for Windows 10 compatibility up to version 1903 (May 2019 Update)
 - RDSL-7206, RDSL-7207 - Fixed the issue with dual display on Windows 7 and Windows 2008 where the mouse pointer does not move to the second screen and desktop icons are displayed on the second screen.
- vSpace Console:
 - RDSL-7202 - Fixed the issue where the Multiview application cannot be opened from the system tray with a pre-defined passcode.

For customers with active Annual Maintenance Program (AMP) plans vSpace Pro Enterprise Edition adds the following new product features:

- Support for Windows Server 2019.
- Support for multi-touch monitors.
- Support for smart boards/interactive whiteboards.
- Support for more than 100 concurrent terminal sessions.
- Enhanced vSpace Console software to manage user sessions/devices for large deployments.
- Enhanced audio protocols for L-series, M-series and MX-series thin clients.
- Enhanced health monitoring service for vSpace Pro deployment.

Following are the new product features introduced in RX300 firmware version 3.4.9:

- Support for RemoteApp and Desktop connections.
- Support for native (functional) redirection of printers in RDP sessions.
- Support for VNC screen shadowing.
- Ability to setup a desktop wallpaper.
- Enhanced single- and multi-touch screen and smart board support
- Calibration tool for touch screen monitors.
- Enhanced vCAST Web Streaming with Vimeo support.
- Enhanced vCAST VLC Media Streaming with NComputing SDA support.
- PMC connection status display.
- Ability to select screen saver action.
- Lock-up of the 'Domain' field on the logon screen if a domain name is pre-configured in Kiosk Mode settings.
- Additional splash screen at the early stage of device boot-up process.
- Ability to configure 'Custom RDP parameters' for RDP connections in VERDE VDI Client mode.
- Improved behavior of the logon screen in VERDE VDI Client mode when the 'Allow using custom VERDE Connection Brokers' option is enabled.

- Cosmetic changes and spelling improvements in the GUI.

PREVIOUS RELEASE NOTES (SINCE VSPACE PRO 11.X AND VSPACE PRO ENTERPRISE EDITION 12.0.2):

The following vSpace Server component issues have been fixed in this product version:

- RDSL-7152, RDSL-7157 - Session does not appear on clients - only black screen (Windows Server 2016, Windows Server 2019).
- RDSL-7146 - Server does not send KeepAlive messages to RX300 after reconnecting to previously disconnected session.
- RDSL-7028 - Audio stops working in VLC player (used without vCAST) after changing playback position by clicking the progress bar.

The following vSpace Console issues have been fixed in this product version:

- VCON-943 - Sessions do not appear in vSpace Console Sessions view.
- VCON-940 - vSpace Console crash when trying to open old RX300 profile created by previous Console.
- VCON-939 - vSpace console fails to start MultiView window.
- VCON-938 - vSpace Console crashes occasionally when changing RX300 3.2.13 firmware settings.
- VCON-937 - Incorrect registration status when connecting vSpace Console to remote vSpace manager.
- VCON-887 - Empty Session column in Devices view (sessions are not assigned to devices).
- VCON-842 - Delay before displaying Premium Features.
- VCON-834 - Closed disconnected sessions do not disappear from session list after disconnection session cleanup timeout elapses.
- VCON-823 - Error saving Health Monitor settings when vSpace Server is on a different computer than vSpace Manager.
- VCON-803 - Dynamic refresh of vSpace Console data.
- VCON-801 - vSpace Console hangs after Multisuser service crash.
- VCON-792 - Incorrect behavior when vSpace Manager gets unavailable and then comes back.

The following RX300 firmware issues have been fixed in version 3.4.9:

- RX-1614 - GUI termination due to receiving the SIGUSR1 signal just after boot.
- RX-1525 - VERDE Client: Domain name disappears when username is being entered.
- RX-1506 - Static IP Configuration: No error message is displayed if alphabetic characters are entered.
- RX-1460 - Some special Japanese keys do not work in vSpace sessions.
- RX-1458 - Connections to VERDE VDI or vSpace Servers fails after switching Network from Wireless to Ethernet (and vice-versa).

The following L-series firmware issues have been fixed in version 1.15.8:

- TT-794 - vSpace Console displays unknown characters when kiosk mode is enabled but with empty user name and password.
- TT-790 - After firmware update to version 1.15.5 user name and password are corrupted.
- TT-788 - Client only reacts after 3 minutes when vSpace Server goes down or a network issue occurs.
- TT-787 - Auto-connect to the server group has a 3 minutes delay when vSpace Server is in different subnet than L300 device.
- TT-783 - User autologin does not work with user names longer than 20 characters.
- TT-782 - Incorrect characters in user name after updating L300 firmware to 1.15.2.

KNOWN ISSUES:

- Please refer to <https://support.ncomputing.com/portal/kb> for known issue details.

GENERAL INSTALLATION INSTRUCTIONS:

New vSpace Pro Enterprise Edition installations should be performed on machines with fresh installs of supported Windows OS versions. vSpace Pro Enterprise Edition relies on Remote Desktop Services thus the Remote Desktop Services must remain enabled after vSpace Server installation to ensure correct system operation. When installing vSpace Pro Enterprise Edition on a standalone Windows Server (not belonging to Active Directory domain) the Remote Desktop Services will be automatically enabled during vSpace Server installation. When installing vSpace Pro Enterprise Edition on a Windows Server joined to an Active Directory domain the Remote Desktop Services must be enabled prior to vSpace Pro Enterprise Edition installation.

Any application software should be installed after completing vSpace Pro Enterprise Edition installation and rebooting the system.

Refer to '[vSpace Pro Quick Installation Guide](#)' for more detailed installation instructions.

UPGRADING INFORMATION:

vSpace Pro Enterprise Edition can only be installed on machines running supported Windows OS, where no vSpace Pro 10.x nor vSpace Server 8.x is installed, as upgrades from these versions are not supported. Upgrades from vSpace Pro 11.0 (version released to selected customers only), 11.1, 11.2, and 11.3 LTS, as well as from vSpace Pro Enterprise Edition versions 12.0, 12.1, and 12.2 are supported.

LEAF OS MANAGEMENT:

vSpace Console included in this vSpace Pro Enterprise Edition release can only manage a subset of LEAF OS configuration settings. For full LEAF OS feature set

management, the separate PMC device management system should be used. PMC support of LEAF OS devices is scheduled for January 2020.

LEAF OS CONNECTION LICENSE & TRIAL MODE:

LEAF OS is compatible with vSpace Pro Enterprise Edition (version 12.3.0 and above). LEAF OS software can be downloaded and try for free.

By default, vSpace Pro Enterprise Edition provides a LEAF OS trial mode of up to five 10-minute vSpace concurrent sessions. After 10 minutes, the session will be 'signed out'. You can sign-in again to continue evaluating the product.

To remove the five 10-minute vSpace concurrent session limit, LEAF OS Connection Licenses are required based on the number of LEAF OS computers concurrently connected to vSpace Pro Enterprise Edition sessions.

Please note that AMP compliance is required to use vSpace Pro Enterprise. LEAF OS Connection Licenses are available with the following SKUs:

- LeafOS-SW-1A (1 year)
- LeafOS-SW-3A (3 years)
- LeafOS-SW-5A (5 years)

Please contact us for more information.

RX300 FIRMWARE:

This vSpace Pro Enterprise Edition comes with RX300 firmware version 3.6.5. For correct operation with this vSpace Pro version and to ensure best performance and remote management all RX300 devices need to be upgraded to firmware version 3.6.5.

vSpace Console included in vSpace Pro Enterprise Edition can only manage a subset of RX300 configuration settings. For full RX300 feature set management the separate PMC device management system should be used (requires active Annual Maintenance Program).

L-SERIES FIRMWARE:

This vSpace Pro Enterprise Edition comes with L-series firmware version 1.15.8. For correct operation with this vSpace Pro version and to ensure best performance and device management all L-series devices need to be upgraded to firmware version 1.15.8.

M/MX-SERIES FIRMWARE:

This vSpace Pro Enterprise Edition comes with M/MX-series firmware version 2.4.8. For correct operation with this vSpace Pro version and to ensure best performance and remote management all M/MX-series devices need to be upgraded to firmware version 2.4.8.

ADDITIONAL NOTES AND WORKAROUNDS:

- **Enhanced audio protocol for L-series, M-series and MX-series thin clients**

vSpace Pro Enterprise Edition comes with enhanced audio protocols for the above thin clients to provide better audio delivery including website video content and flash video content.

- (a) In the case if the user still experiences interrupted and/or distorted audio quality during rich-content playback (e.g. Flash content), please refer to the instruction below to modify the registry key value to further improve the audio quality:

Add the variable “[PollingTimeout](#)” in the “[HKLM\SYSTEM\CurrentControlSet\Control\MultiUser](#)” key in the registry.

1. By default, “[PollingTimeout](#)” is set at 20 milliseconds.
2. Increase this value to 40 milliseconds to check for audio quality improvement.
3. If further audio quality improvement is needed, increase this value to a maximum of 60 milliseconds without affecting the user experience.

Note: The “[PollingTimeout](#)” registry value needs to be in 32-bit D-word value. The value is represented in milliseconds (i.e. 1000 = 1 second)

- (b) In the case if the user wants to revert back to the previous audio protocol used in vSpace Pro 10.x or 11.x for their L-series, M-series or MX-series thin client, please follow the instructions below:

1. To revert L-series thin client audio protocol to the previous vSpace Pro 10.x or 11.x method:

[HKLM\SYSTEM\CurrentControlSet\Control\Multiuser\VDM\LVAudio\AudioL300](#)

Change the “[_Protocol Id](#)” from “1” (new protocol) to “0” (legacy protocol)

2. To revert M-series thin client audio protocol to the previous vSpace Pro 10.x or 11.x method:

[HKLM\SYSTEM\CurrentControlSet\Control\Multiuser\VDM\LVAudio\AudioM300](#)

Change the “[_Protocol Id](#)” from “1” (new protocol) to “0” (legacy protocol)

3. To revert MX-series thin client audio protocol to the previous vSpace Pro 10.x or 11.x method:

[HKLM\SYSTEM\CurrentControlSet\Control\Multiuser\VDM\LVAudio\AudioMX100](#)

Change the “[_Protocol Id](#)” from “1” (new protocol) to “0” (legacy protocol)

- **RX300 support for USB signature pad models:**

Following are USB signature pad models which have been pre-configured in vSpace Pro 11.3 server with proper server isolation (i.e. user A will not see the signature pad connected to user B).

On RX300 thin client, generic USB redirection policy must be applied to the connected signature pad for the peripheral to be recognized by vSpace. You can do so from RX300 setting menu > Peripherals > Custom > Custom VID:PID. Enter the VID and PID of the connected signature pad so this peripheral will redirect to the vSpace Server.

- VID PID 056A:00A1 Model: WACOM STU-500
- VID PID 056A:00A2 Model: WACOM STU-300
- VID PID 056A:00A3 Model: WACOM STU-520A
- VID PID 056A:00A4 Model: WACOM STU-430
- VID PID 056A:00A5 Model: WACOM LCD Signature Pad STU-530
- VID PID 056A:00A6 Model: WACOM STU-430V
- VID PID 056A:00A7 Model: WACOM LCD Signature Pad STU-530V
- VID PID 056A:00A8 Model: WACOM LCD Signature Pad STU-540
- VID PID 056A:00A9 Model: WACOM LCD Signature Pad STU-541
- VID PID 0403:6001 Model: Topaz Signature Gem T-LBK462-BSB-R
- VID PID 06a8:0043 Model: Topaz Signature Gem T-L462-HSB-R

- **RX300 functional (native) redirection of smart card readers**

Functional redirection of smart card readers leverages the PC/SC daemon and smart card reader drives embedded in the device firmware. Please refer to RX300 firmware Release Notes for list of smart card reader drivers that are supported with native redirection.

- **vCAST Media Streaming**

vCAST Media Streaming supports up to and including VLC Player version 3.0.6.

- **The ‘USB Audio Redirection’ option on L-series firmware**

By default the “USB Audio Redirection” option in the L-series firmware is not enabled, **this is the recommended configuration**. vSpace Server sessions will default to use the ‘NComputing virtual audio device’ for playback and recording of locally connected USB headset (or other USB audio device) to an L-series client. This is the simplest and recommended setup. In this case when both USB and analog headset are simultaneously connected to an L-series client, the client device will default to use the connected USB headset for all audio playback and recording.

With “USB Audio Redirection” enabled vSpace provides redirection of the USB audio device to the host Windows server and uses the host servers appropriate Windows audio device driver for playback and recording to and from USB audio devices that are connected to an L-series device. In this case the users Windows session will report the USB audio device name in the Windows device manager alongside the ‘NComputing virtual audio device’.

With the ‘USB Audio Redirection’ option enabled the user in his/her vSpace Server session can access two audio devices:

- 1) the 'NComputing virtual audio device' (with input/output assigned to the L-series' integrated audio jacks),
- 2) the locally connected USB audio device with its original name.

Using a USB headset (or other USB audio device) with the 'USB Audio Redirection' option turned on usually allows a higher audio sampling rate (which should result in improved sound quality), but also consumes increased network bandwidth as larger amounts of audio data are required to be transferred between the vSpace Server and the client device. As USB audio devices tend to be timing sensitive, the sound may occasionally get choppy or stutter if the network is not able to sustain the audio data traffic data rates in a busy network environment. In some circumstances, where L350 devices are used with HD monitors, in rare occasions it is possible for audio playback to be disabled when playing web videos, if you experience this problem you will need to re-boot your L350 access device. For this reason, we do not recommend using USB Audio redirection with L350 access devices.

- **Truncation of the last few seconds of sound recording**

Under certain system and network conditions, when recording sound without enabling the 'USB Audio Redirection' option, the recording start time may be delayed and the last few seconds of the recording might be truncated. This happens because the client device buffers voice data prior to it being sent to vSpace Server. The keyboard and mouse events however will be sent immediately, without buffering. This results in the sound recording application to receive the "stop recording" event before receiving all the recorded data. To avoid the possibility of truncated recordings users should wait a second or two after finishing the recording before stopping a recording. To minimize this effect, the UseAdvancedMicThread REG_DWORD value can also be set to 0 in the HKLM\SYSTEM\CurrentControlSet\Control\Multiuser registry key on the vSpace Server.

- **HTML5 video playback with Internet Explorer 11**

To ensure successful playback of HTML5 videos on Windows Server 2008 R2 the Desktop Experience feature and an update for the Desktop Experience Decoder must be installed.

See: <https://support.microsoft.com/en-us/kb/2483177> for more details.

- **Power Plan settings of vSpace Server**

When using vSpace Server, especially on desktop versions of Windows OS, the Power Plan settings should be configured in a way, which will never allow the hard disks to be turned off or the computer to enter the sleep or hibernation state after a period of inactivity.

- **Using a physical host with AMD/ATI GPU**

When using a physical host with AMD/ATI GPU it's advisable to install the video driver only, without the Catalyst Control Center (CCC.exe) utility. This would prevent potential memory leak in AMD's Catalyst Control Center which may affect system instability.

CONTACTING TECHNICAL SUPPORT AND ADDITIONAL RESOURCES

- Visit the NComputing [vSpace Pro website](#) to learn about the benefits and common FAQs for vSpace Pro Enterprise Edition
- Learn more about NComputing's Annual Maintenance Program (AMP) and its benefits: <https://www.ncomputing.com/products/vSpace/vSpace%20Pro%20Annual%20Maintenance%20Plan>
- Please use the following link to review the updated terms in the NComputing end user license agreement for vSpace Pro: <https://support.ncomputing.com/portal/kb/articles/ncomputing-software-eula>
- Visit the NComputing Knowledge Base at <https://support.ncomputing.com/portal/kb> for more information, guides, and walkthroughs.
- To request Technical Support, please visit the NComputing Support page at <https://www.ncomputing.com/support/support-options>

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