



Product Release Notes: NComputing vSpace[®] Software for the L-series version 6.1.2

Product: NComputing vSpace for L-Series devices (L300, L230 and L130)

Version: 6.1.2.5 for Microsoft Windows Server 2008 R2 (64-bit), Windows Multipoint Server 2010 (64-bit), and single-user instances of Windows 7 (64-bit). Note that this release does NOT support any other earlier 32-bit or 64-bit Windows operating systems (e.g. it does NOT support Server 2008 64-bit)

This new vSpace software can be configured to deliver a Windows 7 end-user experience through vSpace virtual desktops running on Windows Server 2008 R2, Windows Multipoint Server 2010, and single-user instances of 64-bit Windows 7. (For licensing details, see www.ncomputing.com/WindowsMultiUserLicensing, www.ncomputing.com/WindowsLicensingVDI, and www.ncomputing.com/WindowsDesktopandLaptopEnhancements)

These release notes contain important information regarding this 64-bit vSpace software release for L-series products and should be read in their entirety. Also, please review the L-series User Manual available for download at www.ncomputing.com/documentation

What's New – Summary:

This is the first release of vSpace 6 for the L-series (L300, L230, L130). The following is a summary of the key changes from previous vSpace 4 releases.

- Support for 64-bit Windows operating systems (per above), that deliver a Windows 7 end-user desktop experience
- New and improved NComputing Management Console (NC Console) that simplifies management and delivers more capabilities to administrators.
- Support for desktop roaming (user can disconnect from a session on one device and reconnect to the same session from another device).
- Overall performance, efficiency and compatibility improvements.

Important notes on this release:

- **Registration Required:** This vSpace release includes a trial license and must be registered using the NComputing Registration Wizard to allow L-series device operation beyond 1 hour of session time. If vSpace on the host computer is not registered, trial mode host behavior will last for 30 days, and thereafter, NO virtual desktop

connections can be made. However, the vSpace registration wizard can still be run from the host system after the trial period expires. Registration reminder popups will periodically be displayed on the host console session and inside user sessions to encourage registration before the trial period expires.

- **Device Registration Required:** Trial license mode limits any unregistered L130/L230/L300 devices to 60-minute user-sessions. If an access device is not properly registered for use with this software, a user's virtual desktop session will shut down after 60 minutes. A short warning message will be displayed on the user's screen before the session is terminated, but this will be a FORCED termination, and any unsaved data will be lost. All L130/L230/L300 devices MUST be registered to obtain functionality beyond the trial mode limitations (i.e., user sessions lasting longer than one hour). When the vSpace host software is registered online, the system can be configured to automatically background register any subsequently connected unregistered L-series devices.
- **No reset of trial period:** The trial license period begins when any version of vSpace is first installed on a host. Note that uninstalling and then reinstalling vSpace does not reset the 30-day trial period. If you are installing this code on a system which previously had ANY version of vSpace installed (for example, when upgrading Windows Server 2003 to Windows Server 2008 R2), then this vSpace code will normally need registration before any L-series devices can connect.
- **Online and Offline registration options:** Online registration can be done if TCP ports 80 or 3630 are open to the internet. Offline registration can be done by emailing the file created by the registration wizard to: registration@ncomputing.com
- **Update of L300 Firmware Required:** This release includes new firmware for the L300 access device (firmware version 1.3.5). You need to update the firmware on your L300 devices to use this version of vSpace. Note that depending on which version of firmware you have installed, you may need to perform the update process twice in order to get to firmware version 1.3.5 (you can check the firmware version on your devices from the NC Console or by viewing the Information screen in the L300 firmware interface). If after your first firmware update you see that the device has not updated to 1.3.5, simply repeat the firmware update process (either manually from the L300 device or pushed from the NC Console).
- **Do not install on a U-series or X-series host or on top of any beta software:** This first vSpace 6 release for the L-series is only intended to be installed on a clean OS without any previous versions of vSpace installed. Do not install it on an OS where vSpace for the U- or X-series (or a beta version of vSpace 6 for the L-series) was previously installed.

Tips and Performance Recommendations

- **Memory Requirements:** 64-bit operating systems in general require double the memory of Server 2003; therefore, if you are upgrading an existing host, please make sure the host has 64-bit processing support and has sufficient memory to accommodate the new operating system and vSpace.
- **Add Users to Remote Desktop Users:** The supported Microsoft operating systems require User Group assignments; so administrators will need to adjust user account settings to add them into the "Remote Desktop Users" group(s).
- **OS Performance Settings:** The operating system Power Options setting should be configured to "High Performance" (under Control Panel > Hardware > Power options). Microsoft's default power setting gives a false impression that vSpace CPU utilization is much higher than on previous 32-bit operating systems. Also, for best user performance, make the following two modifications under the performance section of the operating system's "Computer System Properties" Advanced tab:
 - Increase virtual memory settings to prevent users from experiencing sluggish performance and/or running low on available memory.
 - Select the "Adjust for Best Performance" option or deselect unneeded options under Visual effects to remove superfluous desktop visual effects that can negatively impact performance.
- **Windows 7 Desktop Theme:** If you install the Windows Server 2008 R2 "Desktop Experience" feature, start the "Themes" system service and set it to autostart, then each individual can "personalize" their virtual desktop to use a Windows 7- themed interface. However, remote sessions do not support the Aero "window transparency" feature for overlapping windows.
- **Disable Mouse Cursor Shadow:** It is advised to use only the default mouse cursor without shadows enabled . Be sure to UNCHECK the "Enable pointer shadow" option under "Appearance and Personalization > Personalization" in the "Change mouse pointers" section. No color cursors are supported, and several of the black and white cursors are not supported.
- **MSI Installer and Uninstaller Options:** The MSI installer now has "ADDUSERS=0" available as a command line option to enable silent installs while suppressing the popup window asking if you want to add new users. A MessageBox is added to the uninstaller to provide options for handling an existing vSpace host license during a silent uninstall.

The available options when running from the Command Line are:

 - "DELETELICENSE=0" – do NOT remove vSpace license
 - "DELETELICENSE=1" – popup box will appear
 - "DELETELICENSE=2" – remove vSpace license without popup
- **Accessing device setup if set to autoconnect:** If the L300 device "autoconnect to a group" is enabled and you wish to access the L300

setup screens, use the "Esc" key during the L300 boot cycle to exit the autoconnect process and access the device setup interface.

- **Browsers:** Google Chrome and Mozilla Firefox have been found to use less system resources than Internet Explorer (IE) and are therefore recommended for virtual desktop environments when many instances of the browser are launched. Administrators may wish to configure the OS to replace IE as the default browser application for internet access. If you do use Internet Explorer for browsing:
 - We STRONGLY recommend turning ON Internet Explorer's option to "Force offscreen compositing even under Terminal Services". This will prevent screen flickering that can occur with some web applications when using Internet Explorer in a vSpace virtual desktop.
 - The IE Enhanced Security feature can slow down internet traffic, prevent the browser from working efficiently, and may degrade the performance of videos played through the browser. We recommend either uninstalling the feature or using a different web browser.
- **Optional Performance Tuning Parameters (Advanced Users):**
The following registry settings can be adjusted for performance tuning:
 - If a program's user interface appears to be getting accelerated when not desired you can disable video streaming for that specific application (applies to L300 only). To do so, simply add the application's executable to the following registry key:
 - [HKEY Local Machine > System > CurrentControlSet > Control > Multiuser > ExcludeVideoPlayerNameList]

Each program in the list must be separated by a semicolon. For example:

explorer.exe;firefox.exe

With these applications in the excluded list, video acceleration will not attempt to stream graphical elements in the application(s).

- If certain applications appear to be getting accelerated when scrolling a page's screen up and down and this is not desired, you can instruct vSpace to specially process scrolling in such applications to prevent streaming in this situation. Simply add the executable to this registry setting (as above):
 - [HKEY Local Machine > System > CurrentControlSet > Control > Multiuser > ScrollProtectNameList]
- For certain gaming applications (not generally recommended for use with vSpace) and some video formats played in Windows Media Player, you may experience a high degree of CPU utilization with these applications. You can adjust vSpace's handling of DirectX by changing the following registry setting to 0:

- [HKEY Local Machine > System > CurrentControlSet > Control > Multiuser > Disable DirectX]

However, when doing so, you may encounter problems with Windows Media Player. If you do, you should either: 1) not have a user logged into the host session, 2) turn off the Aero interface on the host session, or 3) uninstall the native video card driver on the host and install the default Windows VGA driver.

L300 firmware v1.3.5, changes from v1.2.8:

- To upgrade to the latest L300 firmware (v1.3.5), each device must at least be at firmware version v1.00.000. This means that any L300 device that is not at version 1.00.000 or newer must update twice to receive the latest v1.3.5 firmware. See our Knowledge Base or the user manual for specific L300 firmware upgrade instructions.
- Resolved issue that stopped USB flash disk support after ~10 plug/un-plug cycles.
- Improvements to USB mouse and keyboard initialization on power up.
- Works for default gateway set to 0.0.0.0, both in DHCP and static mode
- Fixed hold-down repeat key issue when inside a vSpace session
- In the event of no-network cable or no DHCP server present, the firmware will timeout and enter setup after about one minute (it will not stay at the “one moment please” notice).
- Auto-login feature enabled in firmware
- FTP credentials and update method are saved when pushing new firmware
- Various user interface, layout and usability improvements

Known Issues and Errata

- **Installation error if Windows Firewall Service is not running:** the Windows Firewall service needs to be running for the installer to complete. As part of the installation process, vSpace opens needed ports in the Windows Firewall using the Windows Firewall service (refer to the user manual for more details on which ports). If this service is not running an error message will appear: *“There is a problem with this Windows Installer package. A script required for this install to complete could not be run. Contact your support personnel or package vendor.”* If you get this error, simply quit the installer, turn on the Windows Firewall service and re-run the installer. If you do not wish to use the Windows Firewall service, you can turn it off after the installation.
- **Desktop resolution setting:** User desktop resolution is controlled by the “Login Settings” tab inside the L-series device, and although

the NCtray applet seems to offer options for setting the resolution, it is not currently possible to change the desktop resolution from inside the Windows session or from NCtray.

- **Microphone control settings:** these are not accessible from inside a user session.
- **WMP Video performance:** Under certain conditions where CPU utilization is very high, and certain types of streaming media are being played in Windows Media Player, you may encounter that the update rate of video frames will not keep up with the audio being played. In these circumstances, you can either increase the available host performance or try another type of media player such as VLC or Media Player Classic (in non-EVR mode).
- **CPU Utilization with Full-screen Flash video:** when running accelerated Flash video in full screen, CPU utilization will be significantly higher than for other accelerated video formats.

Contacting Technical Support and Additional Resources

- Visit NComputing's Knowledge Base at <http://www.ncomputing.com/support.aspx> for more information.
- To request Technical Support, please visit the NComputing Support page at <http://www.ncomputing.com>
- For general information about NComputing please visit us at <http://www.ncomputing.com>

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GPL Declarations

The NComputing L300 access device contains – in part – some free software (software licensed in a way that ensures your freedom to run, copy, distribute, study, change and improve the software). This free software is also contained in the L300 firmware update files that are distributed together with NComputing vSpace software installation packages that are expressly for the L300. The free software contained within the L300 firmware includes a version of X-LOADER, U-BOOT, LINUX, LIBSYSFS, LIBUCI, LIBUSBIP, ETHTOOL, UCLIBC, QT and BUSYBOX. The aforementioned software components are free (see www.gnu.org/philosophy/free-sw.html for more details) software programs developed by the Free Software Foundation, a separate not-for-profit organization without any affiliation to NComputing, Inc. As part of the distribution of an L300 device and the associated vSpace software installation package you were granted a license to the free software under the terms of either the GNU General Public License or GNU Lesser General Public License ("Licenses"; copies of which are available from www.gnu.org/licenses/licenses.html). Further, for at least three (3) years from the date of distribution of the applicable product or software, we will give to anyone who contacts us at gplcoderequest@ncomputing.com, for a charge of no more than our cost of physically performing source code distribution, a machine-readable copy of the complete corresponding source code for the version of the software that we distributed to you. For more information refer to: www.ncomputing.com/gplcodedownload

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