Confidential Reseller Product Announcement (RPA): NComputing L300 Ethernet Virtual Desktop

This RPA provides relevant information for NComputing's resellers and distributors regarding the L300 launch, product configuration, etc. **This document includes pre-release confidential information that is covered by NComputing NDAs with its partners. This document is not to be shared with end-customers directly. Collateral that is appropriate for end-customers will be made available on or about the public launch date.**

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Summary

On April 26th, 2010, NComputing will announce a new member of its award winning L-series line of products: the L300 Ethernet virtual desktop. The L300 delivers breakthrough performance with a rich, multimedia PC user experience without trade-offs. In fact, its performance cannot be matched by the latest thin clients or zero clients that cost 2X to 3X the price of the L300. It also features new USB 2.0 extension technology with two ports for additional peripherals at the desktop plus separate USB ports for keyboard and mouse. And for administrators, the new vSpace™ desktop virtualization software offers the deployment and management tools necessary to deploy thousands of devices on a corporate network while also remaining simple enough to deploy just a few workstations in a small office or school.

The L300 will be available in volume in May with ordering open by the end of April.

L300 product overview

IT departments are actively searching for less expensive ways to purchase, deploy, and manage employee desktops. Desktop virtualization has been considered the cure-all for this headache, but users are still concerned about virtual desktop performance and multimedia support. NComputing shatters this perception by delivering rich full-screen multimedia playback, transparent USB extension, powerful yet simple deployment and management tools, and an industry-leading price point via its next-generation access device—the NComputing L300 Ethernet virtual desktop with vSpace software. The L300 now provides organizations ranging from large enterprises to small businesses to schools with a simple-to-deploy, low-cost means to implement a flexible virtual desktop infrastructure in just hours.

Next-generation media acceleration

With the L300, watching DVD-quality video on up to a 1920x1080 display comes standard for most common media formats. Video files played in a media player and those embedded in a browser perform great up to full-screen resolution. Powered by a new NComputing Numo™ family System-on-Chip (SoC), the L300 uses patented and patent–pending technologies to decode and scale multimedia locally, eliminating network strain.

Broad peripheral support with USB

The L300 features a total of four USB ports. Two USB 2.0 ports are available for use with a wide variety of USB devices that run using NComputing's unique transparent USB extension architecture. This approach allows the USB device drivers to be installed on the host system, just as with a PC. Also, two USB 1.1 ports are dedicated for a USB keyboard and mouse.

vSpace virtualization software – get more from your VDI investment

NComputing vSpace software enables organizations to optimize virtual desktop deployments by providing multiple end users with simultaneous access to a single operating system instance of either Windows or Linux. vSpace not only integrates into virtualization server deployments based on VMware, Citrix, and Microsoft offerings, but can also extend their value by changing the typical virtual desktop structure from 1 user per virtual machine to 30 users per virtual machine. This has a direct, positive impact on operational expenses and immediately lowers overall desktop PC costs such as support, maintenance, and desktop replacement.

Conclusion

The L300 access device costs much less any other thin- or zero-client option and less than half the cost of desktop PCs. In combination with the NComputing vSpace software, it enables VDI solutions at one-fourth the price of other desktop virtualization offerings. The L300 in combination with the vSpace virtualization software will redefine desktop virtualization price/performance. Whether customers are new to desktop virtualization, evaluating VDI, or just looking for a less expensive way to deploy desktops, they will be just a few steps away with the L300.

Features, functions and benefits

Feature	Function	Benefit
Host-optimized video acceleration	Video content played through standalone media players or embedded into web pages is transcoded, streamed, locally decoded, and scaled up to 1920x1080 resolution at full frame rates (*Embedded Flash video acceleration is a beta feature in the first release)	Users will experience PC quality video at low-cost, without excessive host-side processing or, requiring a local PC or thin client with local media player and codec support
High availability login	Administrators can define a failover group as a list of hosts that devices can automatically connect to	Each user can be assured a login within seconds, even in the event of a host failure, without complex central management servers and agents
Rapid deployment tools	Administrators can define a device template with all settings and configurations so that it can be copied and pushed to new devices	Thousands of devices can be deployed easily without manual configuration – and without requiring the installation of a complex centralized management infrastructure
VMware and Citrix Support	Leverage VMware to deploy multiple instances of vSpace, multiplying the number of users per server; or integrate the Citrix Receiver to deploy XenApp-based applications	Leverage server and application virtualization technologies to extend the benefits of vSpace and the L300 for large deployments

Feature	Function	Benefit
Zero management	Once deployed, the L300 requires no management, and can be configured to receive any updates from deployed vSpace servers	Unlike thin clients that require complex management tools to deal with locally installed applications or so called “zero clients” that require complex networking and management server setup, the L300 is easy to configure and then is automatically managed by the vSpace server it is attached to.
Transparent USB redirection	The L300 includes 2 USB 2.0 ports that transparently redirect bulk, HID, and mass storage class and printer devices back to the server where the native driver is installed	No local management of drivers are required to support USB devices
Zero footprint installation	The L300 includes a convenient VESA mounting option for LCD displays	Keep the desktop clutter-free by mounting the L300 device to the back of an LCD monitor

Target Customers / Usage

Target Market	Key Features
Corporate offices	Users will appreciate PC-like performance with video acceleration. Administrators get the express deployment tools and powerful but simple management they need
Manufacturing / Operations	Easy to deploy in harsh environments where uptime is critical and management is most difficult
Branch Offices (finance / banking / service / retail)	Lowest-cost deployment option for remotely managed branch offices – simply deploy two low-cost PCs in each branch, connecting up to 30 workstations with high-availability login
Small Offices	The L300 pays off in even the smallest offices where even one extra workstation is needed. Simple vSpace installation and management tools make it easy
Classrooms	The L300 delivers the performance school need to run demanding educational applications with autologin and kiosk mode for hassle-free instruction

Training rooms	The L300 makes it easy to roll out customized training rooms with the applications needed with autologin and kiosk mode
Digital signage	The L300 is a low-cost digital signage solution capable of video playback scaled to large screen displays
Healthcare	The L300 is perfectly suited for doctor/dentist offices and clinics with high availability login and the security of keeping data centralized

Choosing the right NComputing product

Most customers self-select between the L-series Ethernet-attached virtual desktop kits and the direct connect X-series or U-series models. Because the L-series virtual desktops can be deployed on a network they are more flexible to deploy, as there is no distance limitation between the host and the workstation. Another differentiator of the L-series is the ability to deploy on virtualization infrastructure.

The L300 is the fourth generation of Ethernet-connected virtual desktops from NComputing, joining the L130 and L230 in the current product line.

The table below provides a comparison between the 3rd generation L130/L230 products and the 4th generation L300 virtual desktop.

Feature comparison between L130/L230 and new L300 virtual desktop

	L130/L230	L300
Ease of deployment	Simple to deploy on single subnet networks	Handles more complex networking topologies Deploy groups of desktops by applying a configuration template
Ease of management	Centrally manage devices from console	Centrally manage across subnets
High Availability	Can manually choose multiple hosts in case of outage	Automatically rollover to available hosts in defined HA group
Interactive user experience	“Better than RDP”	“Native PC” experience with smooth scrolling and fast screen updates
Resolution	1280x1024 (standard) or 1440x900 (wide)	1600x1200 (standard) or 1920x1080 (wide)
Keyboard and Mouse support	PS/2	USB
Video performance	Small window only	Full screen video through media player and Flash video
Peripheral connectivity	USB 1.1 (x1) memory devices supported	USB 2.0 (x2) – wide range of device support

New software features

The L300 Ethernet virtual desktop ships with the most advanced version of vSpace desktop virtualization to be released, version 4.9.1. This version of vSpace delivers powerful but simple new features designed to:

1. Deliver breakthrough user experience by accelerating media player-based video as well as embedded browser-based video with the Numo transcoding engine
2. Enable large customized deployments of L300 virtual desktops with the click of a mouse
3. View and manage large collections of L300 virtual desktops
4. Provide non-assisted, hassle-free automated updates of firmware
5. Provide even better USB device interoperability with transparent USB redirection

L300 multimedia acceleration

Whether watching an employee training video, browsing online content, or checking out the latest can't-be-missed video on YouTube, multimedia and video are an integral part of any modern desktop experience. NComputing has long excelled in delivering high-quality multimedia through vSpace virtualization software and the L-series access devices and now, with the L300, this performance is taken to the next level to include full-screen motion video playback.

Broad coverage of multimedia support

NComputing accelerates three types of multimedia for the L300: Media player-based video, embedded browser-based video, and browser-based animations. Each of these types is accelerated by the L300 virtual desktop using different techniques optimized for the best user experience.

Media player-based video acceleration

The L300 virtual desktop accelerates most video formats through standard media players. A standard Microsoft Windows 2003 or 2008 server installation contains Windows Media Player 10 or 11. By default, these media players only play back a limited number of media types and few codecs are preinstalled. As part of the NComputing vSpace installation, additional third-party codecs (FFDShow) are installed to cover most media types. The vSpace acceleration method then directs the output of the media playback to a compute-efficient Numo transcoding engine, creating a low-bandwidth stream that is transmitted to the L300 device over the network. The L300 then decompresses and scales the video stream in hardware up to 1920x1080 resolution for optimal video quality.

NComputing directly supports Windows Media Player 10 and 11 as well as Media Player Classic – Home Cinema Edition. In vSpace version 4.9, WMV9-encoded video is only accelerated for high resolution through Media Player Classic (MPC). WMV files played with Windows Media Player will display well under 480x320 resolution. Support for WMV files in Windows Media Player for larger-resolution content will follow in an upcoming vSpace maintenance release. Other popular media players may also be configured to take advantage of FFDShow codecs and the vSpace multimedia acceleration method. Check the online forum for community-supported media player options.

Popular formats supported by Windows Media Player 10, 11, or Media Player Classic (vSpace 4.9.1)

Media type	File extension	Example supported codecs*
Quicktime	.mov	h.264
Audio Video Interleave	.avi	MJPEG, DivX, Xvid (MPEG-4)
Windows Media Video	.wmv**	Windows Media 9 +
DVD	.vob**	MPEG-2
Matroska	.mkv	h.264
M4V	.m4v	h.264
MP4	.mp4	MPEG-4
MPG	.mpg	MPEG1-MPEG-2
Flash Video	.flv**	h.264
*Not a complete list. Refer to FFDshow enabled codec list **These media types will initially only be supported through Media Player Classic		

This tightly coupled system of server-side software and optimized client hardware assures that users receive the best possible video experience while getting the maximum use of server resources to drive down costs. In fact, as many as 20 users can play concurrent DVD quality videos from a sub-$800 PC delivered to L300 access devices scaled to a resolution of 1920x1080.

Browser-based video acceleration

In addition to the media types supported above in stand-alone players, the L300 also supports advanced multimedia support for browser-based embedded video. In vSpace version 4.9, browser-based Flash video acceleration is supported as a beta feature that may be turned on or off by administrators. Unlike stand-alone media players with discrete graphics output, the graphics output of Flash video is combined with the browser. vSpace software detects when embedded video is being played and then directs the output of that video frame to the Numo acceleration engine where it is encoded to create a low-bandwidth stream that is transmitted to the L300 device over the network. The L300 then decompresses and scales the video stream in hardware up to 1920x1080 resolution for optimal video quality.

Users will find that video on popular video websites such as YouTube will display full-motion content up to 480p that can scale to full-screen 1920x1080 resolution. Some Flash video in the browser may not be detected by the Numo engine. In these cases, lower-resolution

video up to 480x360 will play back through the L300 with good performance through the intelligent refresh rendering in the L300.

Browser-based animation optimization

Flash animations are not accelerated using the Numo codec, but are optimized through the vSpace protocol directly as partial screen updates using 2D graphics commands. The intelligent rendering of desktop application content by vSpace assures that users get fast updates, smooth scrolling, and synchronized audio. The hardware-optimized performance of the L300 gives users a great multimedia experience even when running demanding Flash animated web pages. .

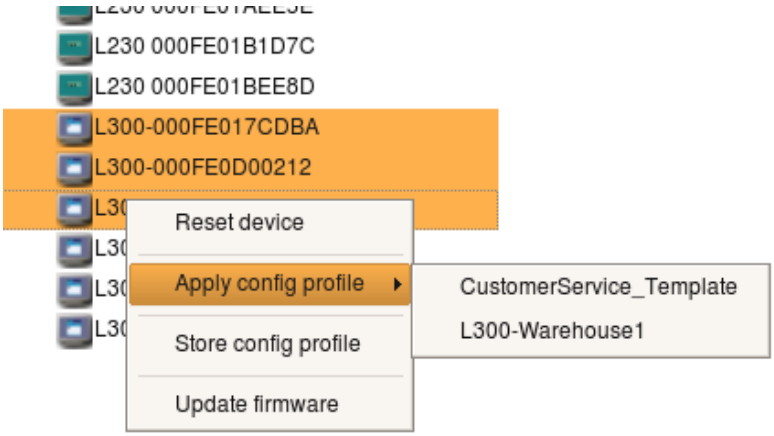
Conclusion

Supporting good quality video has been the goal of thin client providers and virtual desktop software providers for the past several years. These attempts have all pushed the problem either completely to the server to render all video and stream screen refreshes, or to the client by requiring full-fledged local media players and codecs (requiring powerful clients similar to a full PC). In both cases, the cost and complexity required to offer high quality video results in a system cost well over that of a managed PC deployment.

NComputing is the first company to create a solution that breaks this cycle by leveraging an efficient and intelligent transcoding system combined with a hardware-optimized access device, the L300. With the L300 and vSpace, customers can deliver a rich media desktop solution capable of displaying DVD quality video at 1920x1080 resolution while using just a small fraction of a modern CPU. This translates to a cost-per-seat that is less than half of a PC deployment and is simple enough that anyone can set up a complete system in less than an hour.

Rapid Desktop Deployment

Another fantastic new feature is what we call rapid desktop deployment. This allows an administrator to set up one device with the configurations and preferences they desire. Then from the admin console, the admin can select the device, pull its settings down into a template, and then apply that template to as many additional devices or device groups as desired. This simple but powerful tool makes deploying thousands of units is as easy as unboxing and plugging them in.



Applying configuration profile in new vSpace console

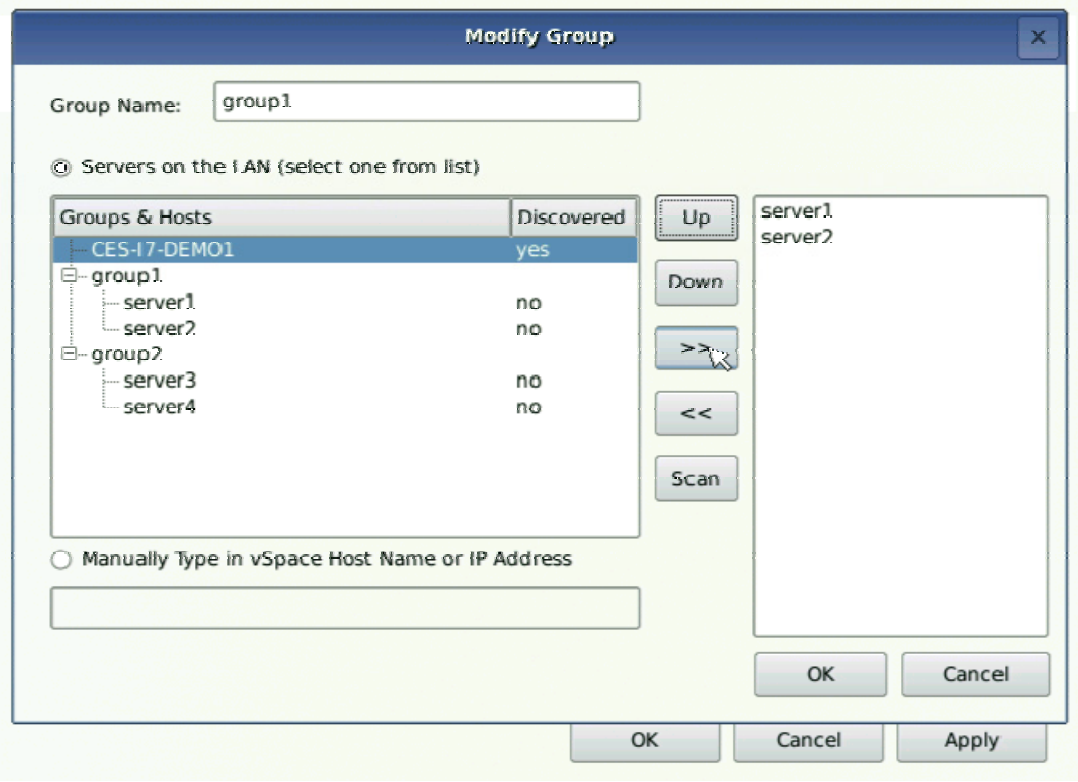
High-availability Login

Another new feature is high-availability login. An administrator may define a group of vSpace servers as a failover group. This means that an L300 device will try to connect to each host in order, connecting to the first one that is available.

This has two benefits:

First, if a server does fail, a user will immediately get a new login where they can quickly resume their work.

Second, a large workgroup of users can be associated with a vSpace group so that they may be distributed across a number of servers without any complex configurations to manage.



Modify group settings from device or console

Transparent USB peripheral support

USB support in the L300 is an improvement over the previous L-series products, which already had an architectural advantage over our competition. The L300 features transparent USB redirection, meaning that when a USB device is attached to an L300, the device is extended directly back to the host where the driver is installed to support the required application. This way, no drivers have to be installed on the L300 making it management free.

The L300 supports a variety of bulk mode, mass storage class, print class, HID class and other devices. Perhaps the best way to understand what works is that the primary limitation is video cameras and audio devices (and any isochronous-class device). But remember, the L300 has stereo speaker output and microphone support built-in, so this should not be a problem.

Hardware features

Powered by Numo

The L300 virtual desktop is powered by a NComputing Numo™ family System-on-Chip (SoC). This highly integrated platform is optimized for both thin client functionality such as USB support and intelligent screen rendering, but is also optimized as a media player capable of playing DVD-quality video scaled to full-screen resolution of 1920x1080.

Winning design

The L300 virtual desktop sports a clean modern appearance that stands out in the crowd. The three LEDs (power, Ethernet link and Ethernet activity) in the front window are useful for troubleshooting and the new and distinctive NComputing brand can't be missed.

Connections

1 – 10/100 Ethernet
2 – VGA monitor
3 – 12V DC in
4 – on/off switch

1 – (2) remote USB 2.0
2 – microphone jack
3 – speaker jack
4/5 – USB 1.1 keyboard & mouse

Zero footprint

Like all NComputing access devices, the L300 can be installed in a zero-footprint configuration with the included VESA mounting plate. Cables can be neatly managed behind the monitor offering a clutter-free workspace. The diagonal mounting configuration makes it easy to access the ports on the device when mounted.

L300 Ethernet virtual desktop kit contents

Each L300 kit includes:

- 1 ea. vSpace software CD with soft copy of user manual
- 1 ea. L300 access device
- 1 ea. 75mm/100mm VESA mounting plate
- 2 ea. M4x10mm screws for VESA mounting
- 1 ea. 12V power supply
- 1 ea. Power cord
- Quick Install Guide (multi-language, English, Spanish, Portuguese, German, French, Italian, Simplified Chinese, Traditional Chinese, Korean, Japanese, Russian, Turkish)

Contents

Display, Ethernet cable, USB keyboard, USB mouse, speakers, microphones, and other USB peripherals are not included.

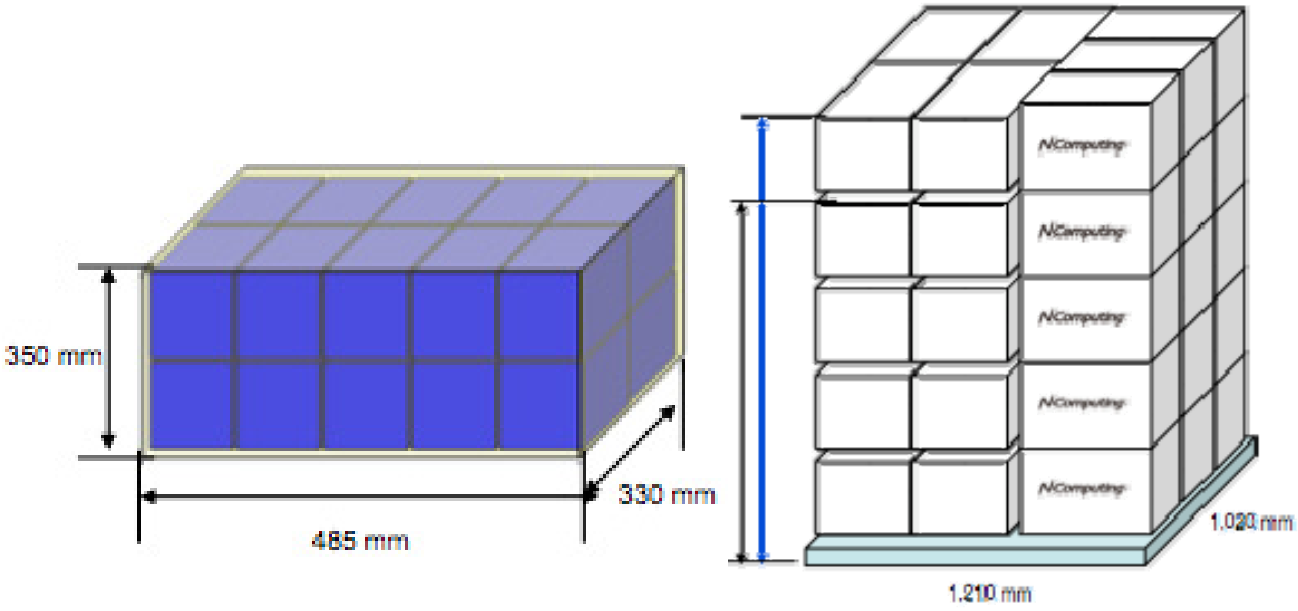
Available collateral and marketing materials

A full suite of collateral will be made available at the launch of the L300. Distributors and resellers should review and read all of the materials. ***It is especially important that those involved with selling or supporting the L300 read the full product user manual.*** The following items will be made available via the website, partner portal, or from your NComputing sales or marketing representative (most items will be available at launch):

Collateral Item	Source
L300 Data sheet	Partner Portal or NComputing website
Enterprise deployment data sheet	Partner Portal or NComputing website
Sales presentations	Partner Portal
L300 Multimedia Tech Brief	Partner Portal or NComputing website
Training materials (i.e. this RPA)	Partner Portal
Training video	Partner Portal
Photos	Partner Portal or Marketing/sales representative
Launch video	Partner Portal or Marketing/sales representative
Overview video	Partner Portal or Marketing/sales representative
Demo video	Partner Portal or Marketing/sales representative
Reviewer's guide	Partner Portal or Marketing/sales representative
Press release	NComputing website
User Manual	NComputing website (on Partner Portal prior to launch)
Quick Installation Guide	NComputing website (on Partner Portal prior to launch)

Packaging

Product package size: 148mm(L)*148mm(W)*88mm(H)
Product package weight: 560g
Units per carton: 20
Carton size: 485.0mm(L) x 330.0mm(W) x 350.0mm(H)
Carton weight: 12.44kg
Ocean shipments: 1,860 mm (5 layers) 700 units (35 cartons)
Air shipments: 1,510 mm (4 layers) 560 units (28 cartons)



Configuration and launch timing

The NComputing L300 Ethernet virtual desktop will be publicly announced on April 26, 2010 at Interop 2010 and through a global press release. Product information will be live on the NComputing.com website prior to April 26, 2010. Global availability of the L300 is expected in early May for distribution and reseller stocking. Due to high demand, we encourage orders to be placed early to ensure product availability in all regions. The following table summarizes the product ordering information.

There will be three standard SKUs to cover major power cord configurations: Type A (North America), Type C (Europe), and Type F (Asian "Schuko" plugs). Additional SKUs and power cord options will be added after the launch.

(pricing information will be made available by your sales/channel representative)

Available part numbers

Model Name	NComputing Part Number	Barcode (UPC/EAN)	Description
L300	500-0095	UPC: 8 82508 00022 1 EAN:8 809208 720145	LONG: NComputing L300 Ethernet virtual desktop with vSpace software NA SHORT: L300 w/vSpace NA
L300	500-0096	UPC: 8 82508 00022 1 EAN:8 809208 720145	LONG: NComputing L300 Ethernet virtual desktop with vSpace software EU SHORT: L300 w/vSpace EU
L300	500-0093	UPC: 8 82508 00022 1 EAN:8 809208 720145	LONG: NComputing L300 Ethernet virtual desktop with vSpace software ST SHORT: L300 w/vSpace ST

Software support timeline

The initial release of the L300 will ship with vSpace 4.9.1. running on Windows Server 2003 R2 and Windows XP This version will include a few beta features that many customers will enjoy, but will be improved and hardened with a subsequent maintenance release. These beta features include the ability to accelerate browser-based embedded flash video and a new management console that enables rapid desktop deployment. Follow on releases for the L300 will include vSpace 5 (supporting Windows Server 2008 and Windows 7 (32-bit)) targeted for release by the end of Q2 2010 and vSpace 6 (supporting Windows Server 2008 R2, Windows MultiPoint Server 2010 and Windows 7 (64-bit)) targeted for release within Q3 2010.

L300 Product Specifications

	Hardware	
Kit contents *	Each L300 kit includes an access device, power supply/cord, NComputing vSpace software CD/license, software installation & user guide, Quick Install Guide, and VESA-compliant monitor mounting bracket. PC, monitor, keyboard, mouse, speakers, microphone, and other peripherals are NOT included and must be purchased separately.	
Size	Width: 115 mm / 4.5 inches, Depth: 115 mm / 4.5 inches, Height: 30 mm / 1.2 inches	
Weight	154 g / 0.34 lbs. Shipping weight (includes power adapter, packaging, documentation, etc.): 0.77 kg / 1.7 lbs	
Power supply	12VDC power supply included (110/220 auto-switching)	
Power consumption	5W (independent of external USB devices)	
LED indicators	Power, network link, and network activity	
Display resolutions	**Normal display resolutions (16 or 24 bit color) @60Hz** 640x480, 800x600, 1024x768, 1280x1024, and 1600x1200	**Wide display resolutions (16 or 24 bit color) @60Hz** 1280x720, 1280x800, 1360x768, 1366x768, 1440x900, 1680x1050, and 1920x1080
Monitor power-save mode	Supports power-saving mode with VESA-compliant monitors	
Networking	10/100 Mbps Switched Ethernet	
Audio	12 bit stereo audio input / output via 3.5mm stereo jacks	
Internal hardware	All solid-state design. No moving parts, no fans, no local user storage. NComputing Numo System-on-Chip with embedded NComputing operating firmware (no local user OS)	
Multimedia support	Hardware-accelerated 2D graphics, hardware-accelerated video support for most media formats on stand-alone media player applications and browser-based video	
Data security	No local data storage on device. USB data access controlled by user or device policy	
Reliability (MTBF)	>100,000 hours (calculated using Bellcore Issue 6 TR-332, Case 2, Part I at 40° C)	
Certifications	FCC Class B, CE, KCC, RoHS	
Environmental	0 to 40 degrees Celsius 10 to 85% relative humidity (non-condensing) No moving parts permits use in high dust / particulate / vibration environments	
Maximum number of users per PC**	NComputing VSpace software permits up to 30 users per shared PC	
PC configuration	See recommended hardware configuration guide on the NComputing website	
	Software	
Supported operating systems***	Microsoft Windows and Linux (refer to the support section of the NComputing website for the latest supported versions)	
User software	NComputing vSpace desktop virtualization software with User eXtension Protocol (UXP)	

***This product is intended to reduce hardware deployment and maintenance costs. Additional licenses may be required by the application software licensors. For multiuser environments, you must also acquire the appropriate number of Windows Server licenses and Client Access Licenses. You can use vSpace software with Windows client operating systems only if a single user accesses the operating system at any one time, or you are authorized to do so under an applicable license from Microsoft or as expressly set forth in the NComputing license agreement that is contained in NComputing SW. Additionally, you should review Microsoft licensing requirements for both multiuser and for single-user environments at www.ncomputing.com/mslicensing

Deployment Examples

NComputing has developed four basic deployment models where L300 virtual desktops provide competitive value:

- Express VDI
- Enhanced VDI
- VMware View Integration (coming soon)
- Citrix Integration

Express VDI

Express VDI is the simplest, easiest, and most cost effective form of desktop deployment or replacement. In this case a customer is interested in replacing existing desktops or at least avoiding buying new ones. These customers will all have at least one of the following in common:

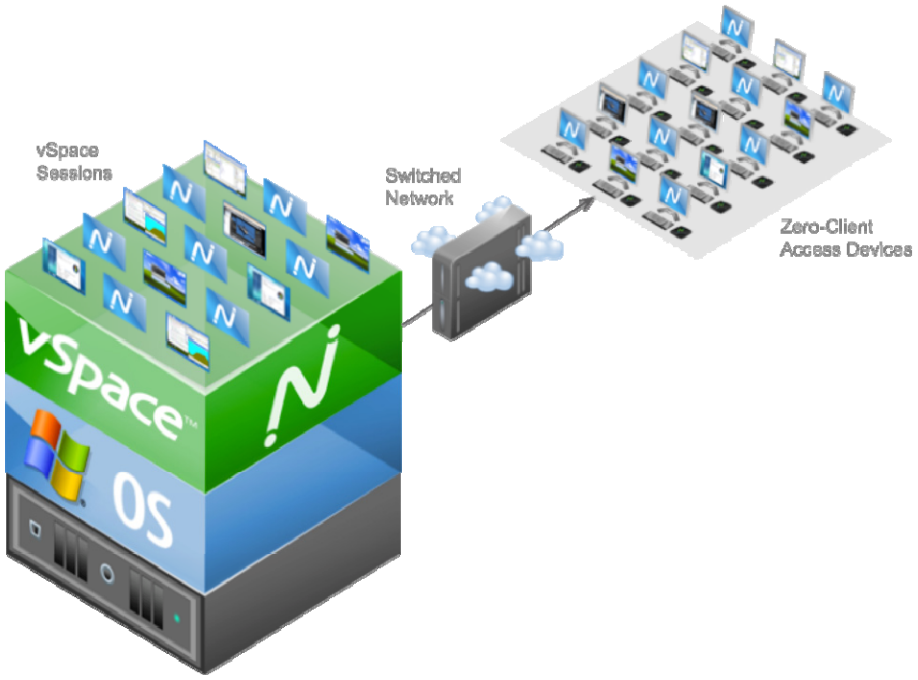
- They are facing shrinking budgets while being asked to replace or repair what they have, creating a need to do something different
- They are looking at an OS migration to Windows 7 and need a way to think about changing their desktop strategy to make this move easier
- They have security concerns over having data stored locally on desktop PCs and want a way to ensure that data stays on the server

In all of these cases, the NComputing L300 is a strong contender for replacing existing desktops.

Why can NComputing win with these types of customers? Because we offer the best price/performance of any desktop alternative on the market.

The Express VDI deployment diagram shown below shows a standard installation where vSpace is installed on a PC or server directly. This sets up multiple vSpace workspaces enabling up to 30 workstations per physical host. Additional hosts may be added to a vSpace server failover group to enable high-availability login. This feature ensures that a user will have an appropriate login on an available vSpace host if one or more of the servers either failed or was taken offline for maintenance. Groups are easily configured in the L300 connection profile and then easily pushed to all L300 access devices on the network.

Express VDI deployment diagram

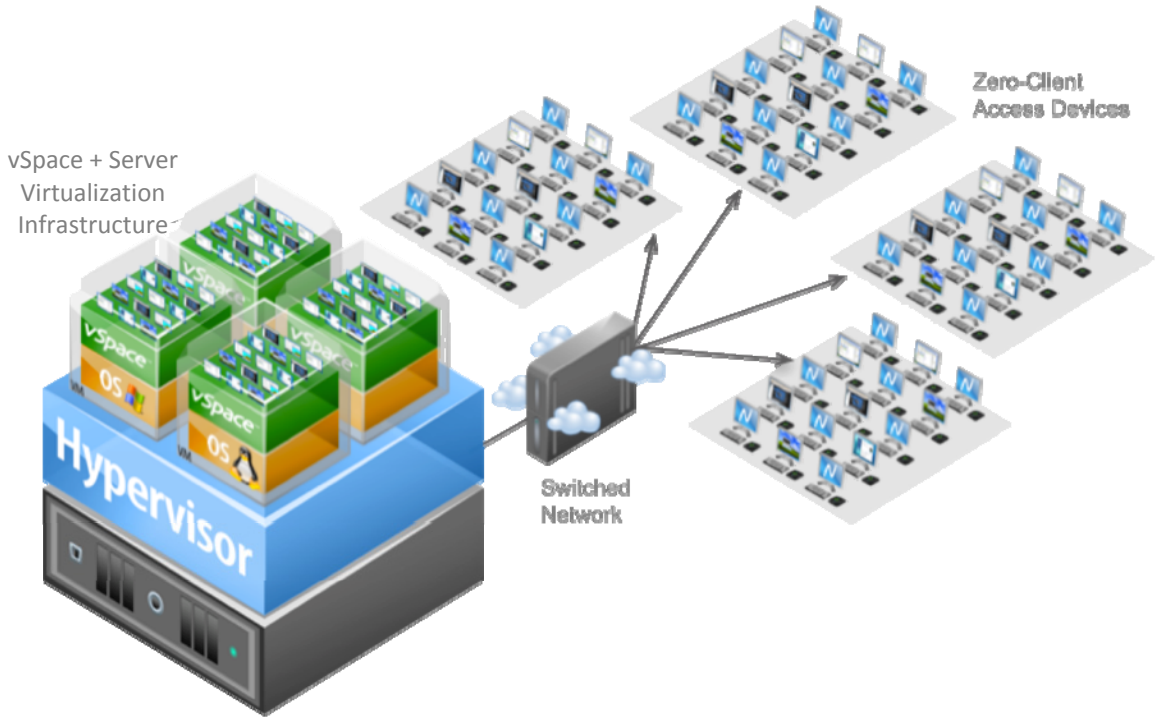


Enhanced VDI

Many enterprises and large customers are considering using servers to host large numbers of desktops. It may be that the standard NComputing Express VDI solution is all they need. After evaluation, they may prove that to themselves. However, customers who already have a VMware deployment and who plan to deploy desktops on their virtual infrastructure can benefit from deploying vSpace, as it will reduce the number of virtual machines by over 90% compared to what they would do with conventional 1:1 approach (one user per desktop virtual machine). Further, they will gain all the benefits of managing the servers with VMware tools.

Enhanced VDI deployments can take advantage of all the vSpace management tools including express desktop deployment for setting up large numbers of L300 access devices and high-availability login. Ultimately, combining vSpace software with the server virtualization enabled by VMware and other hypervisors can result in an optimum solution for larger organizations.

Enhanced VDI deployment diagram (vSpace with server virtualization)



VMware View Integration - COMING SUMMER 2010

Coming this summer will be a new option to integrate vSpace directly with VMware View. In this deployment model, the L300 virtual desktop is configured to connect first to a View Manager server where it will then be directed to the appropriate vSpace host for either a one-to-one (one virtual machine per user) connection or an efficient one-to-many (up to 30 users sharing one virtual machine) connection.

Customers deploying L300 virtual desktops in a VMware View architecture take advantage of the high-performance video, multimedia, transparent USB redirection, and powerful vSpace deployment and management tools.

Stay tuned for beta opportunities with this exciting new feature.

Citrix Integration / Thin client replacement

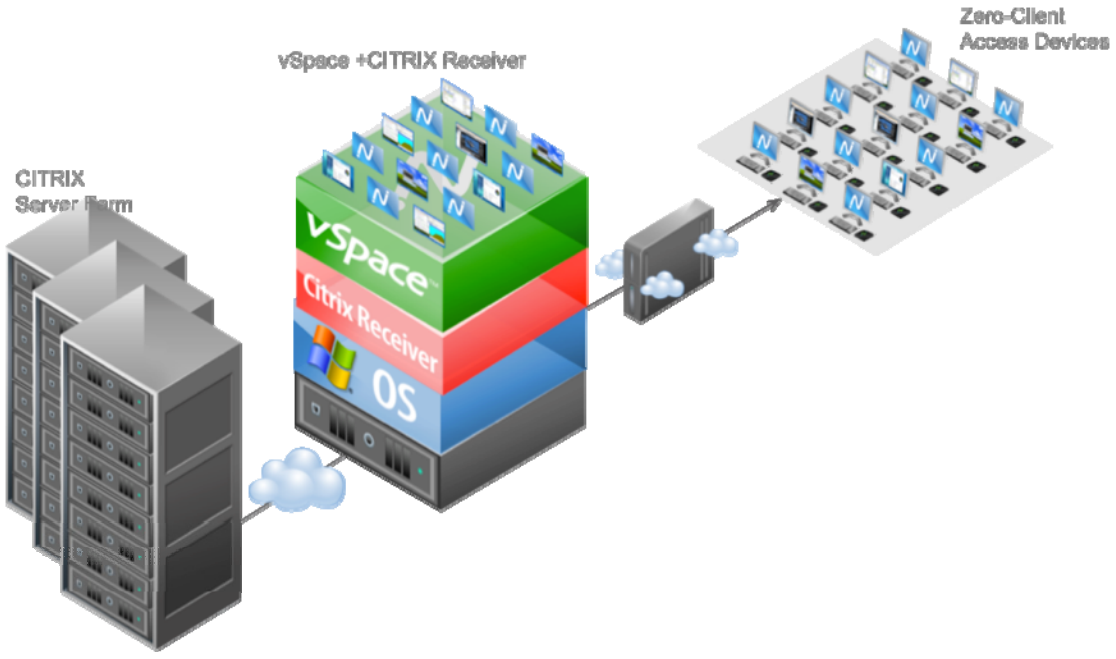
Another class of customer is already looking for a thin client. They may have bought Wyse, HP, or Neoware in the past and are looking for the next generation of thin client. Typically these customers are using the thin client to display published applications from a Citrix farm using Citrix XenApp, also known as Presentation Server or MetaFrame. These customers may also be familiar with the pain involved in managing traditional thin clients.

NComputing delivers PC-like multimedia and USB device support much better than typical thin clients – and at one-half to one-third the price. Also, the L300 doesn't require ongoing management. Once deployed, there are no software applications to upgrade or drivers to install.

Once again, NComputing wins in these types of opportunities because it offers an extreme price/ performance advantage over thin clients and when used in conjunction with Citrix, gives each user the opportunity to access highly managed, centralized applications.

Citrix excels at pushing applications over high-latency, low-bandwidth networks, making it ideal for publishing critical line-of-business applications. However, Citrix clients need processing power to perform. Low-powered traditional thin clients don't always have the processing power to best display published applications, and if a local browser or media player is required, the cost and complexity of those thin clients rise quickly. This is why the majority of Citrix-published applications are actually run on a full PC desktop. NComputing integration permits the Citrix client (or Citrix Receiver) to be installed on an NComputing host that could be deployed as a branch appliance or simply integrated into the local server room (can even be a virtual machine). The Citrix Receiver then has optimal performance for published applications, leaving vSpace to handle the last mile including media playback, local browser applications, and any other locally installed productivity applications.

Citrix Integration diagram



Frequently Asked Questions

Q: How many L300 access devices may be attached to one computer?
A: vSpace currently supports up to 30 additional workstations from each vSpace host

Q: Is the L300 a thin client or a zero client or an access device?
A: The L300 is a virtual desktop, a combination of an access device and a virtual workspace hosted by vSpace. It is fine to call an L300 a thin client or zero client as these are loose industry terms without technical meaning. The L300 access device contains low-level firmware that handles network protocol traffic and enables configuration. When deployed, the L300 requires zero management as all firmware updates can be automatically handled by vSpace.

Q: Can vSpace be installed in a virtual machine?
A: Yes, vSpace may be installed in a virtual machine. For production, NComputing will support VMware ESX 3.5, ESXi 4.0 and ESX 4.0, Citrix XenServer, and Microsoft HyperV 2008R2. For demonstration purposes, vSpace will run with other common personal hypervisors such as VMware fusion, VMware workstation, or Sun VirtualBox on a community-supported basis.

Q: When will the L300 support Citrix?
A: The L300 supports Citrix today. Many customers deploy a Citrix Receiver or client on the vSpace host to enable users to access critical line-of-business applications published by Citrix XenApp.

Q: Does the L300 support VMware View Manager?
A: The L300 will support VMware View Manager in the summer of 2010. vSpace will be installed on each virtual machine to deliver the advanced features of the L300 while taking advantage of the View broker to direct users to a View controlled virtual machine.

Q: Does the L300 support Linux?
A: Yes, the L300 will support Linux distributions targeting SUSE Linux Enterprise Desktop and Ubuntu Linux in the summer of 2010.

Q: What USB devices will the L300 support?
A: The L300 is designed to support all non-isochronous USB devices. This means just about anything other than USB audio or streaming webcams. The USB specification is not always implemented in a standard way by device manufacturers, so there may be some devices that will require additional changes to operate or may not function. We suggest testing devices with your applications prior to deployment.

Q: What is transcoding?
A: Transcoding is the process of converting media formats from one type to another. This is a common technique used when wanting to optimize video for a given player or device. For instance, you may transcode some video to play on a mobile phone. vSpace uses the efficient Numo transcoding engine to convert video into a stream that can be displayed on the L300 device in real time, completely transparent to the end user.

Q: If a customer wants to publish video content optimized for the L300, what format is best?
A: Original content up to D1 resolution (720x480) will have the best playback experience. Content may be encoded in many codecs, but if being distributed over the web, high-compression H.264 or MPEG4 delivers small file sizes. If size is not an issue, lower-compression formats such as MPEG2 require less processing on the server.

Q: The accelerated multimedia feature of the L300 sounds like simple multimedia redirection. How is this different?
A: Multimedia redirection found in terminal server products from Microsoft or Citrix simply send the entire media file over the network to be played by the client. This means that the client must have a full media player software stack and the codecs to decode those files. This means that to achieve the same quality

of video as the L300, a thin client must be 2-3X more expensive and require painful management of the local software stack to constantly ensure that codecs are loaded.

Q: Does the L300 replace the L130 and L230?
A: No, the L300 joins the L-series product line including the L130 and L230.