



ICT Skilling for Schools

NComputing And The EDUGATEBOX

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NComputing



Outline

- Introduction
- Evolution of Ncomputing
- The EDUGATEBOX
- School Lab Setup and Support
- Q&A

Introduction

What is Ncomputing ?

- It is a shared-computing approach: several users work from one central host system
- Each station normally has a terminal, monitor, keyboard and mouse
- The terminal is not a full PC; it depends on the host and the NComputing software layer



Introduction - Continuation

The school's perspective?

- Schools often need many stations, but budgets and power availability may be limited.
- A shared host reduces hardware duplication
- Teachers benefit from centralized control, all from the host Machine
- Learners mainly need office applications, browsing, learning platforms and controlled lab access



Evolution: Hardware

X-Series: PCI-based sharing

- The host PC used an internal PCI card to connect client terminals directly
- The connection was not a normal LAN design
- Short cable runs of about 10 m
- Up to 7 users can share one PC



X300 Terminals

Evolution: Hardware

L & MX Series: Ethernet-based terminals

- L/MX Series terminals connect through Ethernet instead of a direct PCI cable.
- This allows terminals to be placed anywhere on the LAN
- A switch becomes an important part of the design
- Up to 30 users can share one PC



L300 Terminal



MX100 Terminals

Evolution: Hardware

RX-Series: Modern NComputing Endpoint

- RX Series are advanced thin clients for vSpace Pro, and Microsoft Remote Desktop Services.
- They provide a PC like desktop experience from a small endpoint device.
- They have support for Wi-Fi
- Multimedia improvements and broad USB peripheral support



Evolution: Software

NComputing software evolution

	NControl	vSpace	LEAF OS
Role	Classroom supervision tool	Host-side session & device platform	Endpoint operating system
Core function	View stations, control, manage user activity on the clients	Creates and Manages user sessions to NComputing access terminals	Turns PCs into managed endpoints
Management	Manual, teacher-driven	Centralized via vSpace Console	Centralized via vSpace Console
Best fit	Live lab supervision	X-/L-Series host deployments	Repurposing aging school PCs

The EDUGATEBOX

What it is

- A separate network appliance
- Serves as a school's LAN gateway
- Provides network services to the NComputing lab
- Also serves other school devices, not just the lab

What it is not

- Not an NComputing generation or product tier
- Not part of the vSpace, NControl, or LEAF OS lineage
- A different network layer entirely
- Owned by a different product family

The EDUGATEBOX

Services It Adds to the LAN

1 Router & switch

Serving as the LAN
Gateway

2 DNS & DHCP

DHCP Server and can
resolve names of LAN
devices

3 Content filter

Restricts access to unsafe
sites

4 Firewall

Basic Firewall rules

5 Caching

The Device usually hosts
learning material such as
LAB Tutorial

6 Traffic shaping & monitoring

Prioritizes traffic and gives visibility
into network usage

LAB Setup

Sharing Layer vs Network Layer

	What It Handles	Typical Devices
Sharing layer	User sessions, applications, terminal access and host resources	Host/Server, vSpace and X/L/RX terminals
Network layer	IP addressing, internet access, filtering, firewall, DNS/DHCP, bandwidth	EDUGATEBOX, switch, router/uplink, cabling, access points
Physical layer	Power, cables, ports, cards, displays and peripheral connections	Power adapters, Ethernet cables, PCI card, monitors, keyboards, mice

LAB Setup

Checklist for setting up

- Confirm the terminal models: X-Series, L-Series or RX-Series.
- Plan IP addressing and EDUGATEBOX LAN settings.
- Confirm server specifications, vSpace version and licensing requirements.
- Install and verify vSpace before connecting all terminals.
- Prepare monitors, keyboards, mice, power adapters, cables and enough switch ports for every terminal.
- Document port labels, terminal locations, host details and etc.

LAB Setup

Sample Lab Diagram



LAB Setup



Configuration Steps

1

Choose addressing

Use DHCP for quick setup

Best where the network already provides IP, gateway, and DNS automatically.

Use static IP when needed

Enter IP address, subnet mask, gateway, and DNS manually for fixed lab layouts.

Name the device clearly

Use a location-based name such as LAB1-TERM-01 to simplify support.

A screenshot of the NComputing vSpace Network configuration window. The window has tabs for 'Connection Settings', 'Manage Groups', 'Login Settings', 'Network' (selected), 'Password', and 'Update'. The 'IP Address Configuration' section is active, showing 'Interface: Ethernet' and 'Static' selected for DHCP. The IP address is 192.168.1.79, Subnet mask is 255.255.255.0, Gateway is 192.168.1.254, DNS 1 is 183.182.109.1, and DNS 2 is 183.182.109.2. The 'Device name' is 'marketing-L300' and 'Optimizer for' is 'LAN'. There is a 'Ping Test' section with a text input field and a 'Ping' button. An 'Apply' button is at the bottom left, and 'Save' and 'Cancel' buttons are at the bottom right. A note says 'Click to save changes to the IP address configuration.'

LAB Setup

Configuration Steps

2

Groups Management

Create or select group

Add only the relevant vSpace host/server.

Remove old servers

Delete unused entries to avoid wrong connections.

Enable auto-connect

Use it only after the correct group is confirmed.

The image displays two screenshots of the NiComputing vSpace web interface. The top screenshot shows the 'Manage Groups' tab, which includes a 'Refresh Server List' button, a 'Create New Group' button, and two main panels. The 'Servers on the subnet' panel lists 'MARKETING-PC', 'HR_ACINTERNET', and 'ICT-PC'. The 'Groups and Servers' panel shows a tree structure with 'group1', 'group2', 'server3', and 'server4'. Between these panels are buttons for 'Up', 'Down', '>>', 'New Host/IP', and 'Remove'. At the bottom are 'Save' and 'Cancel' buttons. The bottom screenshot shows the 'Connection Settings' tab. It features a message: 'At least one connection option must be selected before the settings can be saved.' Below this, there is a radio button for 'Autoconnect to:' with a dropdown menu showing 'group1'. There is also a radio button for 'Manual connection options', which is selected. Under 'Manual connection options', there are two checked checkboxes: 'Auto-discovered connections' and 'Manual IP address or hostname', and one unchecked checkbox: 'Group list'. At the bottom are 'Save' and 'Cancel' buttons. The NiComputing logo and vSpace branding are visible at the top of both screenshots.

LAB Setup



Configuration Steps

3

Login Management

Set a setup password

Prevent users from changing network, server, or connection settings.

Save and reconnect

After saving, the terminal should recognize the selected server.

Test with real user credentials

Confirm login, desktop launch, keyboard/mouse, audio, USB, and application access.

A screenshot of the NComputing vSpace web interface. The 'Password' tab is selected in the top navigation bar. The main content area shows two radio button options: 'No password for Device Setup' (which is selected) and 'Require password to enter Device Setup (password cannot be recovered)'. Below these options are two text input fields labeled 'Password:' and 'Confirm password:'. At the bottom right, there are 'Save' and 'Cancel' buttons.

NComputing[®] vSpace[®]

Connection Settings Manage Groups Login Settings Network Password Update

☒ No password for Device Setup

☐ Require password to enter Device Setup (password cannot be recovered)

Password:

Confirm password:

Save Cancel



LAB Setup

Configuration Steps – vSpace Pro LTS



What is free?

vSpace Pro LTS is free to download and free to use with eligible NComputing devices.



Check device age

Post-2015 devices can connect to LTS without restrictions; older devices may need licensing or compliance checks.



Do not confuse editions

Enterprise may be free to download, but licensing applies for continued or larger use.

L-Series

- ✓ L250
- ✓ L300
- ✓ L350
- ✓ L400

Reliable thin clients for virtual desktops.

M / MX-Series

- ✓ M300
- ✓ MX100D
- ✓ MX100S

Multi-user thin client endpoints.

RX-Series

- ✓ RX300
- ✓ RX300+

Modern thin client endpoint options.

vSpace Pro LTS Supported Desktop OS: Windows 7 SP1, Windows 8.1, and Windows 10 (64-bit only)

LAB Setup

Troubleshooting

Challenge	Action
Single station affected	Check monitor, keyboard, mouse, power, cable, terminal status and the user session.
Multiple stations affected	Check Server load, vSpace services, licensing, firmware and switch links.
All lab devices affected	Check switch uplink, EDUGATEBOX status, DHCP service, DNS resolution and internet uplink.
Slow desktops	Check Server resources, number of active sessions, multimedia workload and network congestion.
Slow internet	Check EDUGATEBOX filtering, traffic shaping, cache status and bandwidth usage.
Only servers working	Check for Rogue DHCP server, RDS Settings, vSpace connection, firewall rules and host service status.



THE END

Discussion