Thin Client 101

A brief look into thin client computing by Ric Charlton

Who am I?

- Ric Charlton
- Network Manager for a secondary school in Lancashire
  - Approx. 100 staff
  - Approx. 1100 pupils (11 – 18)
- Worked in educational IT support for 3½ years

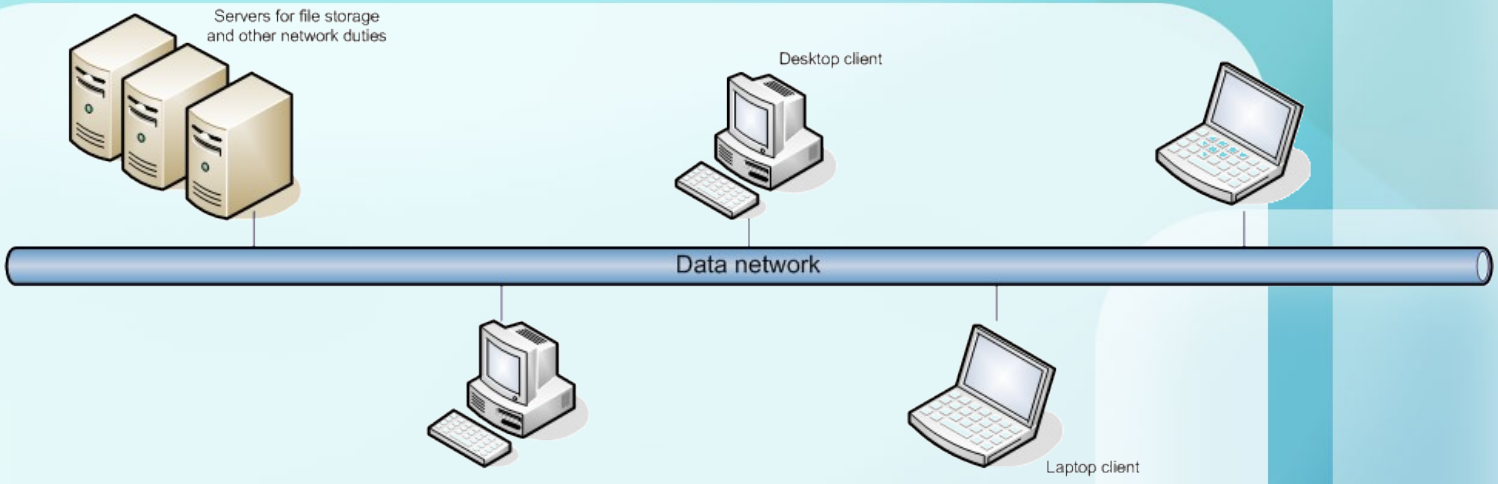
Before we begin…

- Thin client is NOT for everyone
- Thin clients will NOT solve all your financial problems
- You cannot ditch all your ‘fat’ clients
- Thin clients will ease manageability and help allow central management of clients

What to expect from this talk...

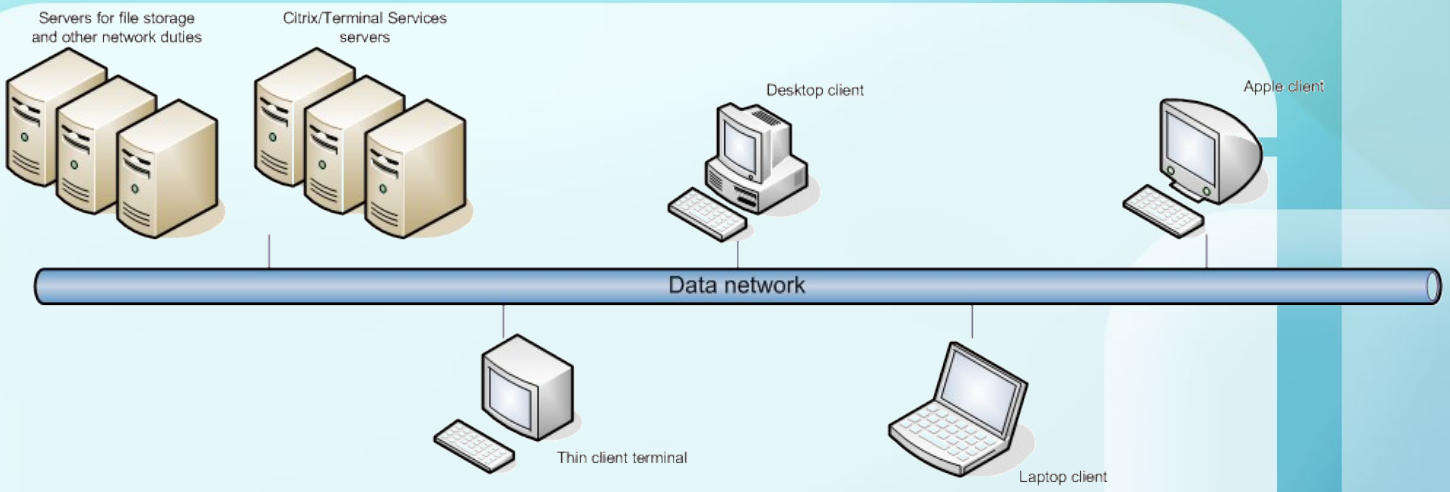
- When and when not to use thin clients
- Mixing ‘fat’ clients with the thin
- Advantages and disadvantages of thin clients
- Additional benefits of Citrix
- My set up
- Etherboot and Thinstation
- Q&A plus hands-on

What is a ‘fat client’ network?



- Servers for file storage and network tasks
- Powerful computers for performing user tasks
  - Relatively short lifespan, requiring upgrades for new software
- Network administration spread across the site

What is a thin client network?



- A ‘farm’ of terminal servers alongside the regular servers
- All manner of devices able to connect to the farm to run applications
- Most PCs can be replaced with solid-state devices
  - Extended life
  - Reduced TCO
- Central management of most tasks

When not to use thin clients…

- Multimedia production
- Graphically-intensive apps
  - CAD is now possible using Citrix!

- If you would be speccing a machine to do a special job… thin client is probably not the way to go in that instance

When to use thin clients…

- Office productivity apps (MS Office, StarOffice, OpenOffice, etc.)
- Web surfing/E-mail
- Low – mid range graphics editting

- Most tasks performed day-to-day in a school environment can be performed on a thin client

Mixing the fat with the thin…

- Popular myth that you must pick which way to go
- You MUST use a mixed environment to allow pupils to do everything they need to do
- Locking down the thin client environment is done in exactly the same way and (for the most part) can use exactly the same GPOs

Advantages of thin clients...

- Central management
- Lower TCO
  - Prolong hardware life
  - Use solid state devices with lower power requirements
  - Cheaper client devices for pupils to destroy
  - Less time wasted wandering the site fixing problems
- Off-site access comparable to on-site access

Disadvantages of thin clients...

- Year 1 costs can be high
- Hardware and software may need adaptation/careful selection to ensure it works correctly
- Server outages can affect productivity

What does Citrix add?

CITRIX

- Load balancing between terminal servers
- More efficient use of bandwidth
- Better admin tools
- Better monitoring
- Excellent package management (Enterprise Edition)

My set up... (1)

- 5x Windows 2003 terminal Servers with Citrix Presentation Server 4
- 70x Thin client devices
- 20x Windows XP clients running as thin clients
- 40x Old hardware running Thinstation
- 20x Windows XP clients running as fat clients
- 100x Windows XP laptops

My set up… (2)

- Thin client devices present the pupils with a ‘connect’ button allowing them to log on
- Windows XP clients simply have an icon saying ‘Logon to network’
- Old hardware boots an Etherboot image on the hard disk and then uses Thinstation to load the Citrix environment
- ‘Fat’ clients all have access to the Citrix desktop via ‘Program Neigborhood’ (not a typo – Yanks!)

What are Etherboot and Thinstation?

- Both open source projects to help you use old hardware
- Etherboot
  - Simply a small app that will pull a boot image from a TFTP server
  - Can be installed on a 5MB hard disk partition
- Thinstation
  - A small distribution designed for thin clients
  - Simply contains an X server and the client(s) for connecting to the terminal server(s)

A brief setup guide

Microsoft Windows Server System

- A simple setup for proof of concept is very easy
- A decent P4 with 1GB RAM should easily support 15-20 clients for testing
- Server 2003 comes with all the components required (inc. 90-day trial Terminal Services CALs)
  - For proof of concept you could even use a Server 2003 evaluation

What you will need

- A PC running Windows Server 2003
- Prebuilt images for Thinstationwww
  - download the Etherboot images from www.thinstation.org
  - this includes a TFTP server
- Etherboot floppy
  - download from etherboot.anadex.de
- A client machine
  - can be anything as long as the graphics card and PCI NIC are a decent make (aids with compatibility)
- A spare hour ☺

The setup process

Check the handout for instructions

Q & A