

# Building cost-efficient thin-client solutions with Linux

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GNOME.Asia Summit, 2009

# Outline

- 1 Motivation
  - What are thin-clients?
  - Use cases
- 2 Concepts
  - Basic Overview
- 3 LTSP
  - Introduction
  - Components

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# What are we talking about?

## Special-purpose PCs:

- small form factor
- low power consumption (about 6W)
- slow(er) processor
- no local storage (boots via network)
- user runs applications on a powerful server

# Where to use thin clients?

- School classrooms
- Internet café
- Second workstation at home 😊

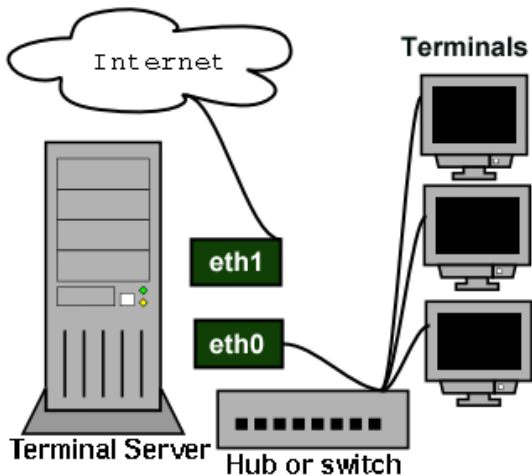
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# Boot Process

- 1 Thin client is switched on
- 2 Asks network for its IP address
- 3 Server tells the thin client its address and where in the network to find Linux
- 4 Thin clients loads Linux from network
- 5 Thin clients runs Linux
- 6 Linux configures the thin client and starts the graphical login

# Operation



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# What is it?



LTSP (Linux Terminal Server Project) is a mature “full-stack” thin-client server solution.

- Packages in most major distributions
- Simple client creation & maintenance
- Simple configuration for individual clients
- Support for multiple client architecture (x86, AMD64, ARM, etc.)

# Components

LTSP includes:

- A server to tell thin clients their IP addresses
- A server to transfer the Linux kernel to the client
- Tools to set up and maintain the system that is sent to the clients

# Summary

- Thin-clients can help keep cost down.
- Maintaining a server is not hard.

## Workshop

There will be a workshop this afternoon at 15:30 (after the tea break) in room 108.

Thank you for your attention.  
Questions?



<http://www.ltsp.org/>



<http://www.k12ltsp.org/contents.html>