



## Success Story

Server

# Centre for Human Drug Research (CHDR)

To enable the rapid and cost-effective adoption of thin-client computing, CHDR worked with Netflex to deploy USB keys running a stripped-down Linux environment for connecting to VMware View. Netflex used SUSE Studio™ to build the Linux environment on the USB keys, which turns standard office desktop PCs into thin clients for VMware View.



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### Overview

CHDR is a full-service contract research organization (CRO) located in Leiden, the Netherlands. The company provides a full spectrum of high-quality clinical pharmacology services to the bio-pharmaceutical industry, employing medical experts who leverage their know-how to efficiently guide the drug development process.

### Challenge

As part of a move to new office premises, CHDR wanted to adopt 'hot-desking': employees would be able to sit at any desktop PC in the office and access all of their data and applications seamlessly. The organization aimed to extend this concept to all locations, so that users would have the same experience wherever they logged in.

"We wanted the workspaces in the new office to be as flexible and compact as possible, so switching to thin-client devices seemed appropriate," said Ron Pluylaar, ICT manager at CHDR. "And with more than 100 desktop PCs but only two dedicated IT personnel, that was a big benefit

for us. However, we didn't want to lose the investment in all of our existing desktop PCs."

### Solution

CHDR engaged Netflex, a leading systems integrator, to provide a thin-client solution that would enable the reuse of its existing hardware, and that would be fast and easy to deploy. The solution is based on VMware View virtual desktop software. Netflex determined that the best approach would be to turn the existing desktop PCs at CHDR into 'kiosks' whose only function would be run the VMware View client software. To avoid the need for local installation, Netflex decided to use SUSE Studio to create bootable USB sticks.

SUSE Studio provides an easy-to-use web interface for building software appliances, starting from the base operating system. Developers can choose from a range of SUSE® Linux operating system templates and can modify the OS as required before adding software packages. This enabled Netflex to easily remove a number of components that would not be required by its thin-client environment.

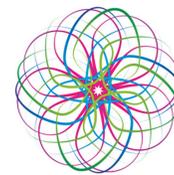
"With SUSE Studio, it was very easy to shrink the OS image down to just the elements we needed," said Rens Kattenberg, a consultant at Netflex. "We managed to keep the final image down below 200 MB, enabling us to achieve very short boot times from the USB keys. It's also easy with SUSE Studio to lock down the operating system, which is exactly what you need for a kiosk."

**"The OS image created by Netflex using SUSE Studio is lean and mean—there's no clutter to slow the local machine down."**

RON PLUYLAAR

ICT Manager

Centre for Human Drug Research



CHDR  
Centre for Human Drug Research

### Centre for Human Drug Research at a glance:

Medical research organization providing services to the bio-pharmaceutical industry

#### Industry and Location

Healthcare, the Netherlands

#### Products and Services

SUSE Studio  
SUSE Linux Enterprise Desktop

#### Results

- + Created a high-performance thin-client appliance capable of extremely rapid deployment
- + Enabled the reuse of existing desktop hardware, avoiding the need for new capital investments
- + Provided a fast and consistent user experience in the office, from home and on mobile devices anywhere

## “With SUSE Studio, it was very easy to shrink the OS image down to just the elements we needed.”

**RENS KATTENBERG**

Consultant  
Netflix

[www.suse.com](http://www.suse.com)

Netflix used SUSE Studio to add the RPM for the VMware View client, to test the resulting appliance, and to package it as a bootable USB image.

“When the solution boots from the USB key, it copies the SUSE operating system image into a virtual drive in the memory, which enables very good performance,” says Kattenberg. “It also means that users effectively get a clean ‘golden’ copy of the operating system each time. Any changes that are made disappear as soon as the machine is turned off, making it impossible for users to break the software. Local data on each PC’s hard drive remains available for use after the migration to thin client, which makes the transition easier for the users.”

Netflix also set up two new VMware ESX servers capable of supporting 60 concurrent virtual desktop sessions, and helped CHDR to create three standard virtual desktop images. The first is a persistent administrator’s environment based on Windows XP and used by IT staff; the second, a non-persistent Windows XP environment used by all staff; and the third, a Windows 7 environment for testing purposes.

“Rather than having multiple different virtual desktops for each different type of user, which quickly gets very complicated, we decided to have a standard master image for everyone,” said Pluylaar. “For each group of users—for example: finance staff, secretaries, medical staff—we use VMware ThinApp to serve virtual applications specific to their role when they log in.”

### Results

Netflix’s use of SUSE Studio helped CHDR achieve rapid deployment for its new thin-client environment.

“There was initially some resistance from users, who were accustomed to having complete control over their desktops,” said Pluylaar. “But the moment they saw that the user experience was exactly the same when working from home or even on an iPad, all the objections disappeared. VMware View is fast and efficient, and it gives everyone access to their own files and workspace no matter how they choose to log in. It even supports dual screens on a single PC, which is something that we use extensively.”

The move to a thin-client architecture has improved performance for users, and also ensures consistent responsiveness whatever the age or specification of the desktop PC. “The OS image created by Netflix using SUSE Studio is lean and mean—there’s no clutter to slow the local machine down,” says Pluylaar. “The USB keys represented the easiest and most cost-effective way to transition to a thin-client environment, because there was no need to buy new hardware.”

When CHDR has written off its investment in the current hardware, it will move to purpose-built thin-client machines that connect directly to VMware View without requiring any local install. In the meantime, the USB keys are the ideal solution, and can be easily upgraded if CHDR’s requirements change.

“Moving to a thin-client environment offers numerous benefits,” says Pluylaar. “In terms of the user experience, thin-client devices are fast, consistent and highly reliable. And for the business, they mean less investment in local hardware, less time and effort spent on managing that hardware, lower energy consumption, and an improved ability to manage software centrally. With SUSE Studio, Netflix enabled us to start getting these benefits rapidly and with minimal disruption.”



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