

# Full featured NX client for KDE

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## Abstract

NX is described by NoMachine as ‘the Terminal Server for Linux and Unix that is changing the shape of remote access and thin client computing’. In short, NX is a remote desktop protocol based around X11 which is highly optimised for low-bandwidth, high-latency links. NoMachine’s web site is located at <http://www.nomachine.com/>.

## 1 Synopsis

NX is an open source product; NoMachine released all the source code to the libraries which the NX protocol is based around. In response to this, Fabian Franz wrote a set of scripts, called FreeNX, which allow people to use the NX server technology without purchasing more software. However, as of 2006, no full featured open source client is available. There currently exist two projects, one called `nxc` and the other called `kNX`, to create an open source client for NX servers.

`kNX` is in a very poor state at the moment. It was written in half a day by Joseph Wenninger at LinuxTag 2004 as a proof-of-concept. Since then, there has been very little work done on it.

`nxc` is an attempt to write a platform independent client library which is designed to compile even on Windows and Mac OS X. It was started by Lawrence Roufail, and works much better than `kNX` does. However, `nxc` has its limitations:

- It does not support PNG compression for the X11 traffic
- It does not support suspending or resuming of NX sessions
- It does not have a configuration interface - you need the commercial NX client to generate the configuration file for the server you wish to connect to
- It has a bug which stops it from reporting the status via the callback interface to the application using it as a library

## 2 Goals

My aim in this project will be to completely overhaul the kNX client. In this, I intend to do the following:

- Fix or rewrite `nxc` so that it works properly as a standalone and platform independent client library
- Ensure that `nxc` can be used unmodified to write a KDE as well as a Gnome or Windows NX client
- Implement the remaining features of the NX protocol into the `nxc` client library which are not currently supported, including suspend/resume and PNG compression support
- Rewrite the kNX backend to use the `nxc` library instead of its own
- Fix the callback interface for `nxc` so that it reports the status of the connection properly instead of entering an infinite loop
- Implement a configuration frontend for kNX so that the open source client is no longer reliant upon the binary only client
- Implement a kNX part/kioslave pair to embed NX sessions within Konqueror, thus allowing NX sessions to be opened using the `nx://` syntax
- Implement a hook in KDE to detect whether it is being exported over an NX session, thus allowing certain configuration options to be enabled which would be advantageous for an NX session, such as adding a "suspend" option to the logout dialogue.

## 3 Suitability

In the past year I have turned to become an extensive user of kNX, NX and FreeNX, running remote NX sessions on a daily basis. I feel I have come to know through first hand experience all of NX's strengths as well as its weaknesses. I am now even a frequent advocate of the NX technology; I have demonstrated it at every Linux gathering I have been to in the past few months, and I have received positive feedback from members of the Linux community which has encouraged me to dig deeper into the FreeNX project.

I am a bit frustrated with the unmaintained status of kNX right now, and plan to take over full maintainership of the program if I succeed in my plans to fix the issues outlined above. I have had a KDE account since 2001, but have so far only contributed one minor application that is distributed with KDE (KLatin, see <http://edu.kde.org/klatin/>).

kNX could become the first major contribution by me that is important for a wide range of users (from home Linux desktop installations to large enterprise

rollouts) which could even be pushed into a position closer to the core of KDE rather than having it hide away in the `kdenonbeta` SVN module.

I am currently making myself familiar with the `kNX` and `nxc` source code, thus putting myself in a position to be able to work on it. I have started to build links with Fabian Franz and Kurt Pfeifle (the FreeNX maintainers), as well as several core developers within the KDE project; if I need guidance of any sort I am sure I can easily find it.