

Wine - the free Windows Emulator

Marcus Meißner
Wine and openSUSE Developer
meissner@suse.de



Novell.



Why do this at all?

Software not ported due to:

- Strategy
- Budget
- Just don't care



Why not virtualize?

Pro Wine:

- No Windows License
- System Integration
- Desktop Integration
- Fun!

Contra Wine:

- Completeness
- Huge Development effort
- Continue catch-up
- Still missing stuff

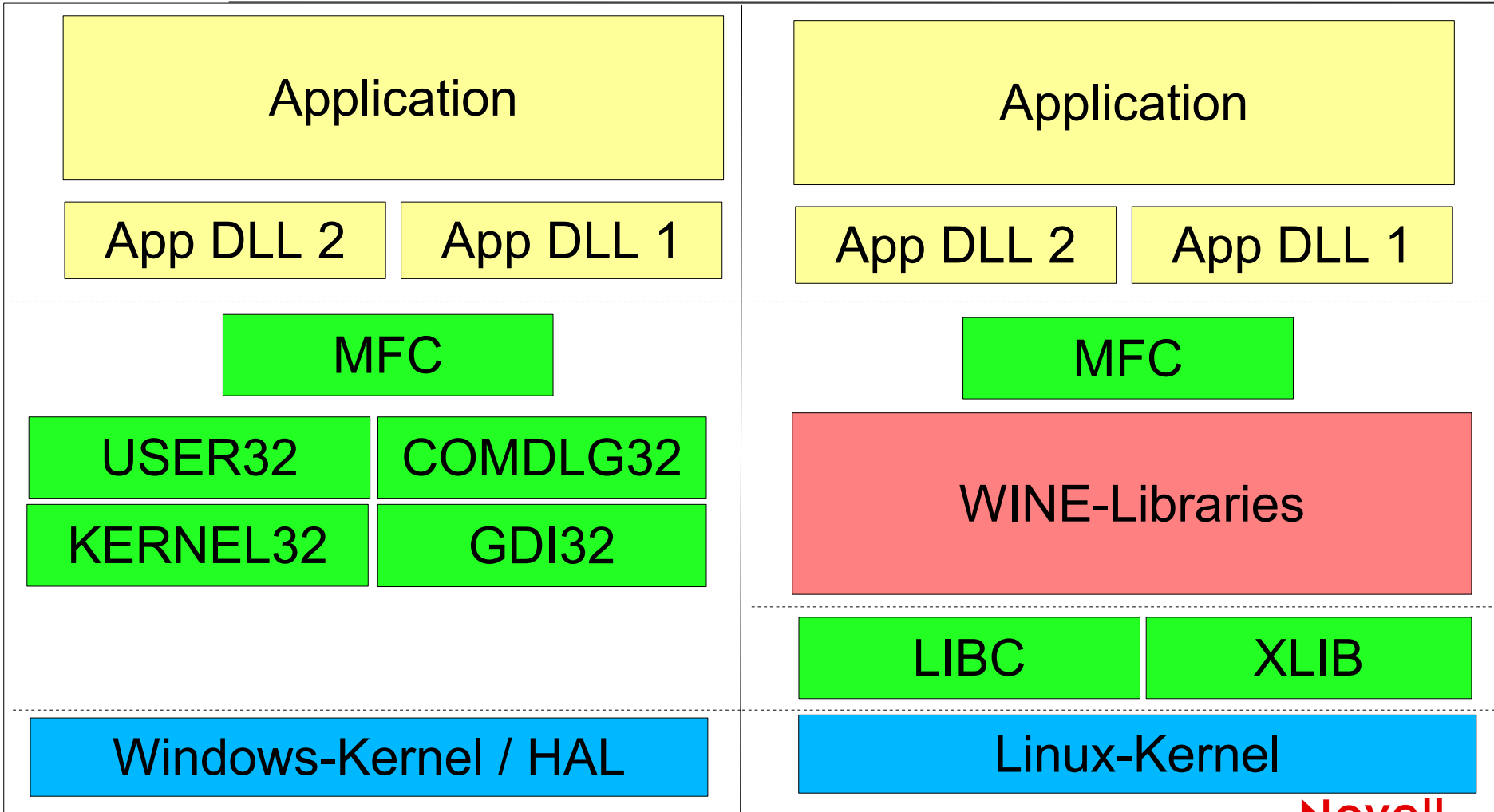


Overview

- Nearly 16 years old
- First stable release last June
 - over 200 ALPHA releases
 - 61 BETA releases
 - 5 RC releases
 - 1.0 Release on Juni 17 2008
- Working on 1.1.x development tree
- Over 1070 authors
- Companies: CodeWeavers, Google, ...



How does it work?





Installation

Install Wine RPM

- From Distribution CD/DVD/FTP
- From openSUSE Buildservice in *Emulators:Wine* repository

Done!

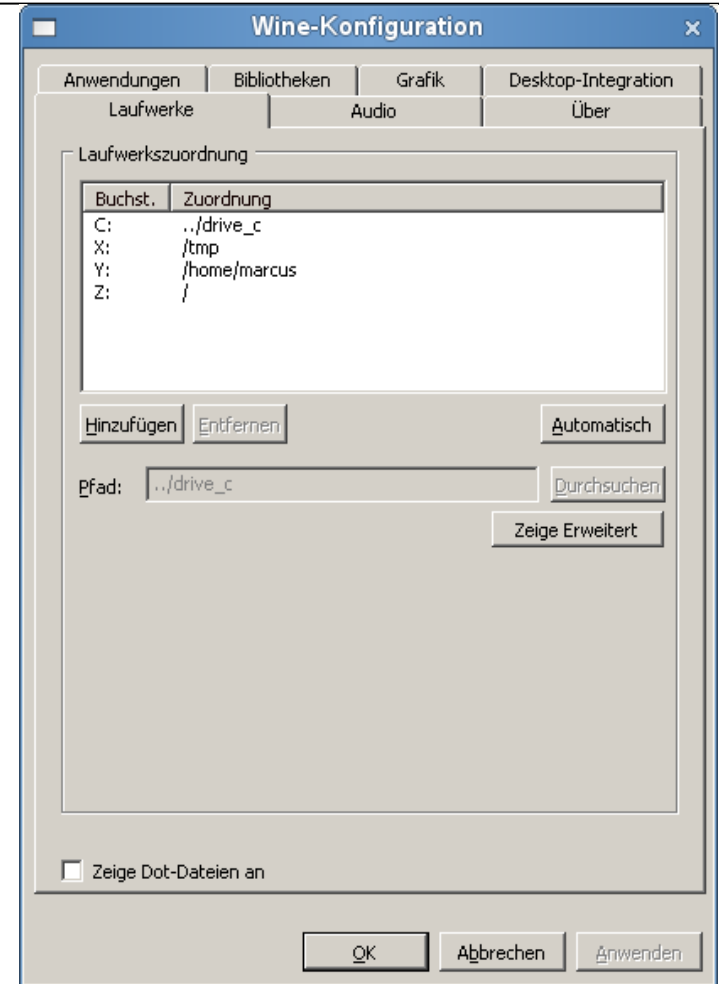


Konfiguration

No setup required!

Adaptions using
winecfg

- Drives
- Audio
- DirectDraw
- Desktop Integration





Installing Windows Software

wine Setup.exe



Installation - developer view

- Largest Task so far
- Beta / RC Quality since 2007
- InstallShield
 - Complex OLE Application
 - scriptable, automatable, etc.
 - 2 man years
- MSI - Microsoft Installer
 - RPM, libzypp, YAST2 Software in one bundle
 - 50.000 lines code, 2 man years



Missing Windows Components

HTML Rendering

- With Mozilla Gecko

Using Downloads:

- MFC42
- Visual Basic Runtime
- Video Codecs
- Fonts
- DirectX9 runtime

With Windows License:

- Windows Media Player 9, 10



Integration

Drives

Registry

Processes

Threads

Printer

Network

TWAIN

msxml

Linux Paths

Textfiles

Linux Processes

Linux Threads

CUPS / lpr

Network

sane & libgphoto2

libxml2 & libxslt



Integration 2

Grafik (GDI)	X11
Fonts	fontconfig, freetype2, XRender
Window Mgmt	X11, Window Manager



Implemented in Wine

Whatever does not map to UNIX:

- Synchronisation between processes and threads
- Window Management
- Cryptography
- DirectShow Framework
- Direct3D shader -> GL mapper
- HTTP / FTP / SMTP Client Stacks
- ...

Applications?



Example: iTunes

- Just for Mac and Windows
- No Linux Port (Apple politics)

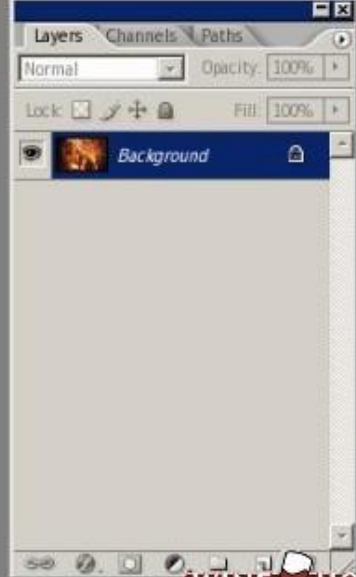
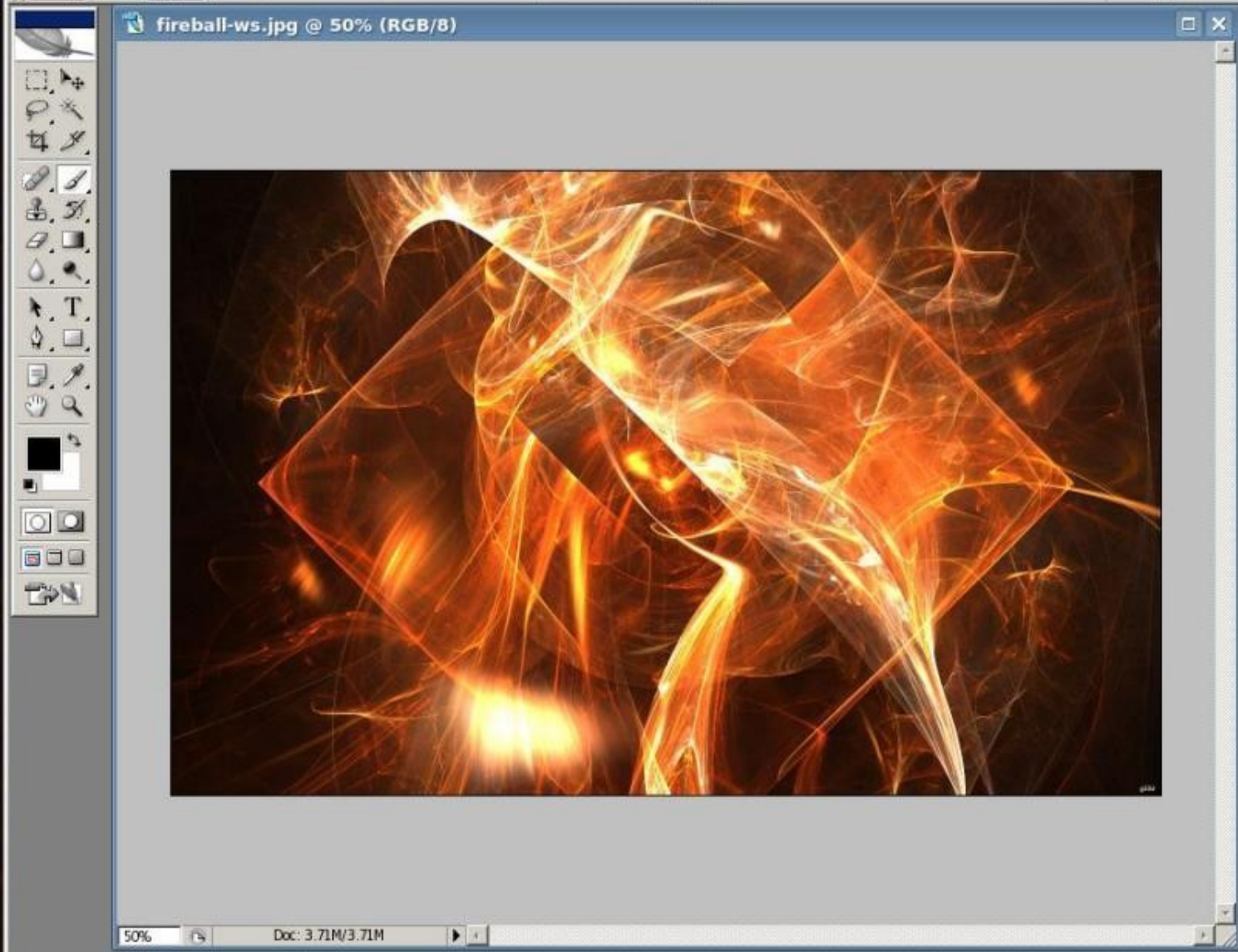
- Problems for Wine:
 - No full iPod Access
 - iTunes Store
 - Online Updates



Example: Photoshop CS2

- Just for Mac and Linux
- Nr of Linux users too small for port

- Problems for Wine:
 - GUI (non standard)
 - Copy Protection
 - Lots of external modules with unknown patterns



Games!



DirectX

DirectSound

ALSA, OSS

DirectInput

X11, Linux HID support

DirectShow

directly in Wine

DirectDraw

OpenGL

Direct3D

OpenGL / GLX

DirectX 9 compatible

DirectX 10 support started



Copyprotection

- Assumptions and tests for Debugger
- Using Windows Kernel Drivers
 - But: in Ring 3 (Usermode) runnable

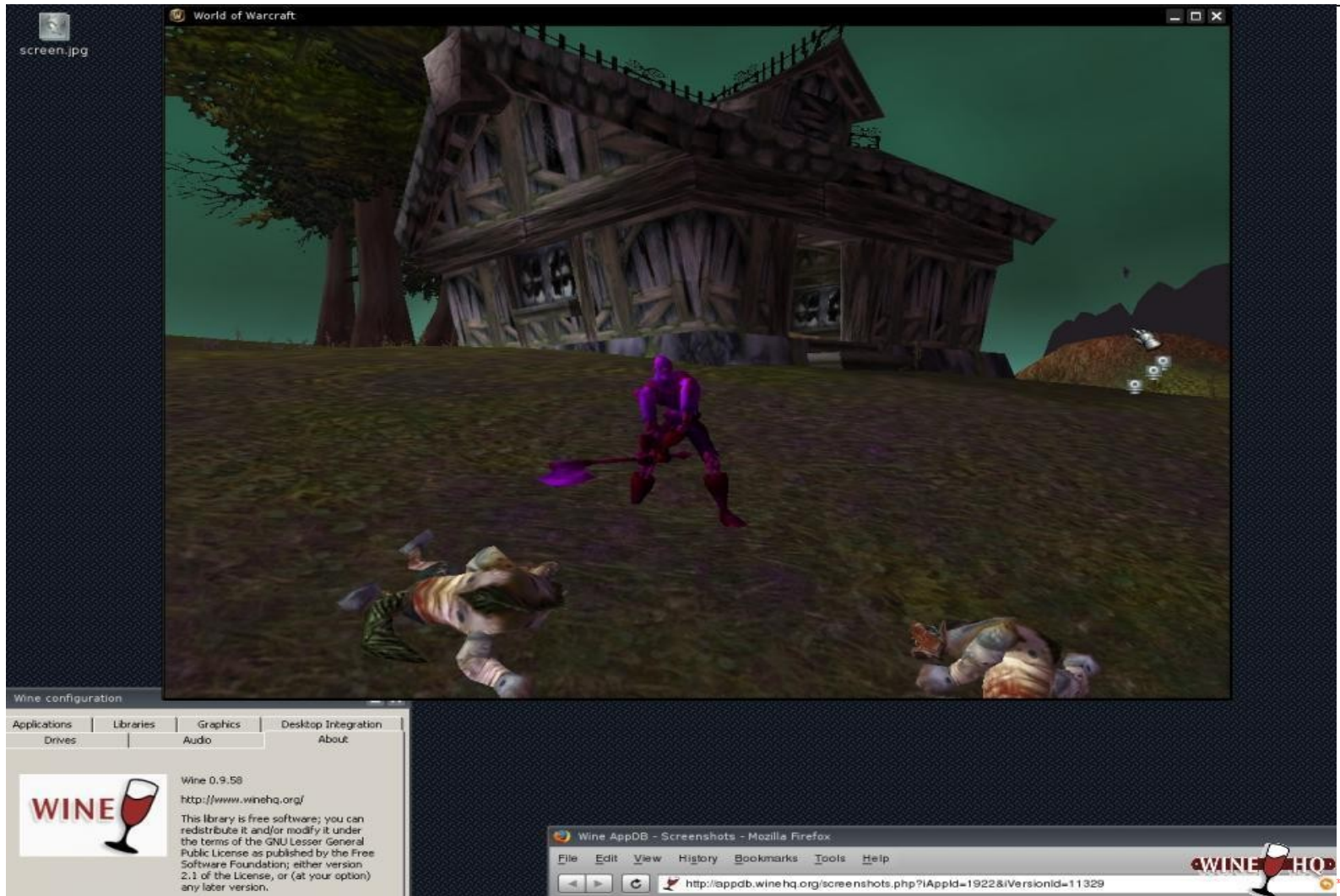
=> Implement Windows Kernel Driver Support!

- SafeDisc, Gameguard runnable
- Starforce and others not

- Alternative: cracked versions (“no cd” cracks)



World of Warcraft



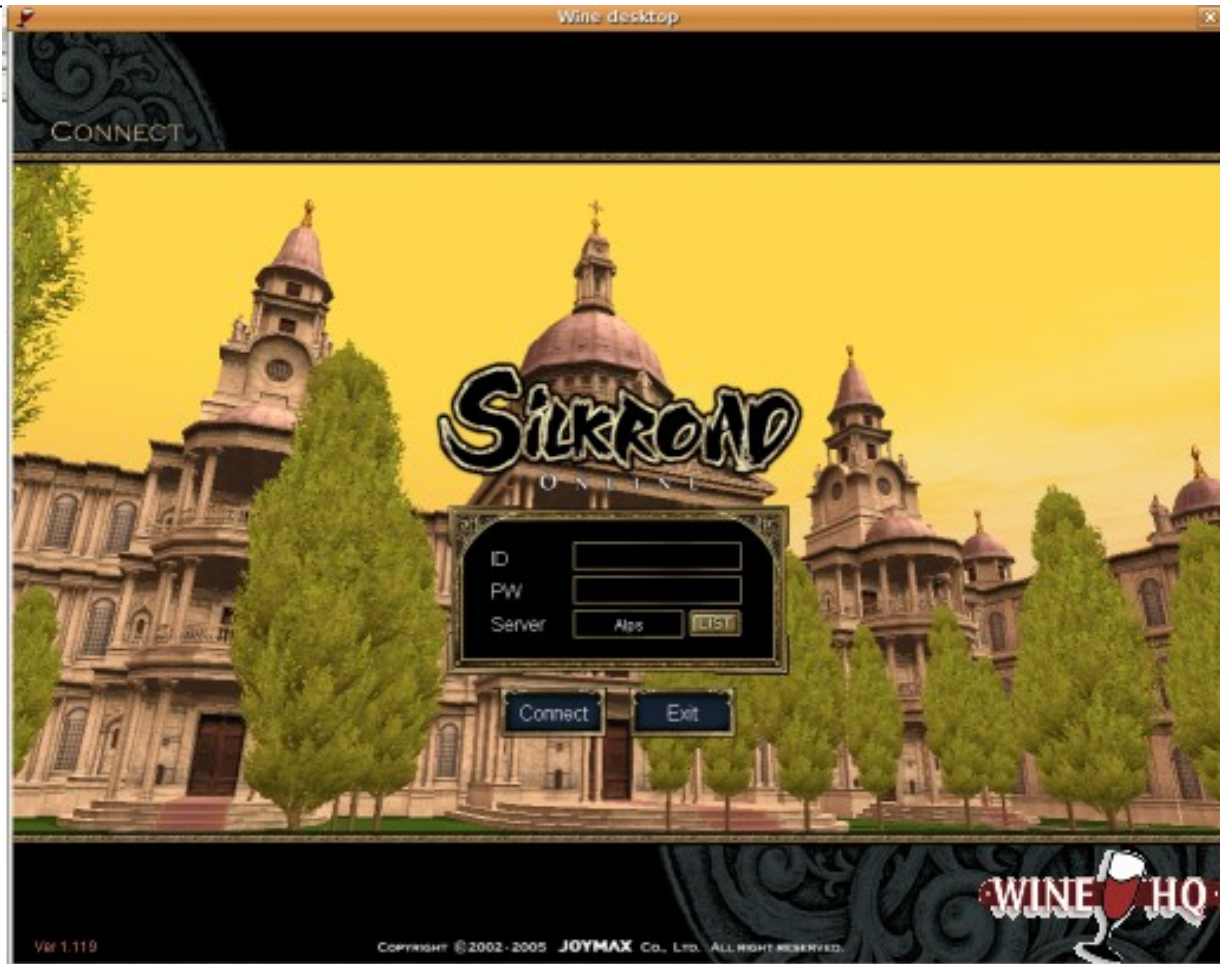


Guildwars





Silkroad





What runs?

Applicationsdatabase:

- <http://appdb.winehq.org/>

Platinum List:

1. WoW
2. Guildwars
3. Homeworld 2
4. Silkroad Online 1.x
5. Warcraft 3
6. Soldat 1.x
7. Watchtower Library 2007
8. MS Office Installer
9. Dreamweaver CS 3
10. Pokerstars 2.669b



Wine 1.0

First stable Release after 15 years.

Wine is Ready for you!

- Test
- Report errors
- Get apps to run
- Enjoy!



... to be continued!

Wine development at even higher speeds!

Wine 1.1.x Development branch is open

Targets:

- Better .NET Integration
- 64bit Support
- DirectX 10
- USB device integration
- All new applications ... :)



More Information

Webseite: <http://winehq.org/>

- Downloads
- Documentation and Wiki
- Forum and Mailinglists
- Application Database
- GIT source repository
- Bugzilla

IRC: #winehq at Freenode