Wine:
Where it came from, how to use it, where it's going

Scale 4x
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What's Wine?

Wine Is Not an Emulator
It is an implementation of win32 on Unix

It lets you run Windows apps on
- Linux
- BSD
- Solaris
- Mac OS X
- etc.

Project's benevolent dict^H^H^H^Hmaintainer is Alexandre Julliard

Wine's Innards

Wine consists of:
- An .exe loader
- A control panel
- Notepad, regedit, explorer, wcmd
- Core DLLs (that know about Unix)
- User DLLs (eg riched20.dll, not Unix specific)
- A few essential fonts

In short, everything needed to run a Windows app

Wine is already useful

I read my email with gmail in Firefox 1.5 on Wine
So far, I've only found four bugs!

Several companies use Wine to ship commercial apps

As we fix Wine to handle each new app,
it makes it easier to fix the next app

Thousands of people run MS Office with Wine

A little Wine history - Before Wine

1991: IBM says OS/2 2.0 will run Windows apps
1991: Bristol ports Win apps to Unix with Wind/U
1993: MS promises "Windows Everywhere",
 Mac "Windows Compatibility Library",
 showcases Wind/U
1993: Sun announces WABI and PWI
1993: Users want "PWI for Linux", start Wine

A little Wine history - First Usenet Message

From: bob@amscons.com (Bob Amstadt)

Subject: Re: Impressions of WABI/Univel vs Linux

Date: Fri, 2 Jul 1993

Of course, for those of you who are interested in running Windows programs there is an effort in progress to create something similar to Sun's WABI. There is an activists channel, "WABI", for discussion of this project. There is need for many volunteers to complete this project.

A little Wine history - Early Days

1994: Alexandre Julliard becomes maintainer
1994: Solitaire runs
1996: Wine adds win32 support
1997: Word 95 starts working

Word 95 first light

From: Martin Boehme
Subject: Wine and Word95 - Success!
Date: 1997/11/18

Wine-971116 has been one of the most exciting releases of Wine for me... I tried

$ wine -dll -shell32 -winver win95 winword

I stared. I goggled. I gaped. Shock. Disbelief. Amazement.
There was Word 95. On my Linux desktop. Word 95. A mainstream 32-bit application.

To whoever made this possible: You are my God.

A little Wine history - WineHQ Era

1997: winehq.com created

1999: Corel hires engineers to improve Wine

1999: Codeweavers funded to improve Wine

2000: Alexandre moves to Codeweavers

2000: Borland hires Codeweavers to improve Wine

2000: Address Space Separation

2001: Lindows hires Codeweavers to improve Wine

2002: Wine switches to LGPL

2002: Codeweavers releases Crossover Office

2002: Wine starts Conformance Test Suite

2003: Disney pays to fix Wine to run Photoshop 7

2005: COM, MSI implemented; DLL separation complete

What about Microsoft DLLs?

Wine does not need or include any Microsoft code

If apps install copies of VB/VC++ runtime libs
vbrun, msvcrt, and mfc40
they will be used by the app under Wine.
This is ok; check the VB/VC++ EULA.

What about Microsoft IE?

IE provides the IWebBrowser interface
to let apps embed web browser windows

Wine now includes an implementation of IWebBrowser based on
Mozilla's ActiveX plugin

What about fonts?

Wine only includes a few basic fonts
Linux doesn't include many, either
Apps look better if you install good fonts

Fortunately, MS provided redistributable free fonts
You can download them from
    http://corefonts.sf.net
This is ok; check the fonts' EULA.

What about the C: drive?

Wine maps the Z: drive to Unix's root by default
This lets Windows apps access all files on system

Wine is currently a single-user application
Each user gets their own "fake" C: drive in ~/.wine/drive_c

Registry stored in ~/.wine/{system,user,userdef}.reg

Winecfg, wcmd, regedit, notepad

winecfg is an applet to tell Wine:
- use a different audio driver
- act like an older version of Windows

wcmd is Wine's DOS commandline processor

regedit, notepad are just like in Windows

Shipping a Windows App for Linux

Windows apps can be packaged as RPM or deb
It's easiest with a "zero-footprint install" like winzip

Bundle Wine in the RPM if you want a standalone app

Wine is not finished

Still not feature-complete

Doesn't run most Windows apps well yet
e.g. OpenOffice 2.0 File/Open dialog has trouble

COM, Database support still need work

Wine is "easy" to contribute to

Six juniors in CS at UCLA are implementing
one RichEd20.DLL feature each this term

A Summer of Code student implemented IWebBrowser last year,
and continues to improve it

Easy to find some missing feature to add
Easy to verify it works like Windows

Hard because you have to be a C programmer
and convince the maintainers your code is good

Porting an app to Linux with Wine

Wine can run any app... if you want it bad enough

The first step is free: use the app daily under Wine, and file bugs at winehq for any problems you find. Include a recipe for how to reproduce it!

Easy to reproduce bugs often fixed by volunteers

Otherwise you can hire someone to fix them
fixing 2-3 bugs: $5K
implementing major new functionality: $50K and up

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Performance - first run

Measured by rebooting system, then measuring how long it takes to start each app

416MB RAM
Firefox native 5, wine 12
OOo2.0 native 11, wine 22

96MB RAM
Firefox native 11, wine 15
OOo2.0 native 51, wine 73

Performance - second run

416MB RAM
Firefox native 2, wine 4
OOo2.0 native 4, wine 6

96MB RAM
Firefox native 4, wine 6
OOo2.0 native 35, wine *30*

Michael Meeks' -Bdirect may reduce native load time

Questions

Slides online at
http://kegel.com/wine/scale4

More info at
http://kegel.com/wine

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