



CLOUD
NATIVE
CON
Europe 2017



KubeCon
A CNCF EVENT



Developing on Windows, Deploying on Linux

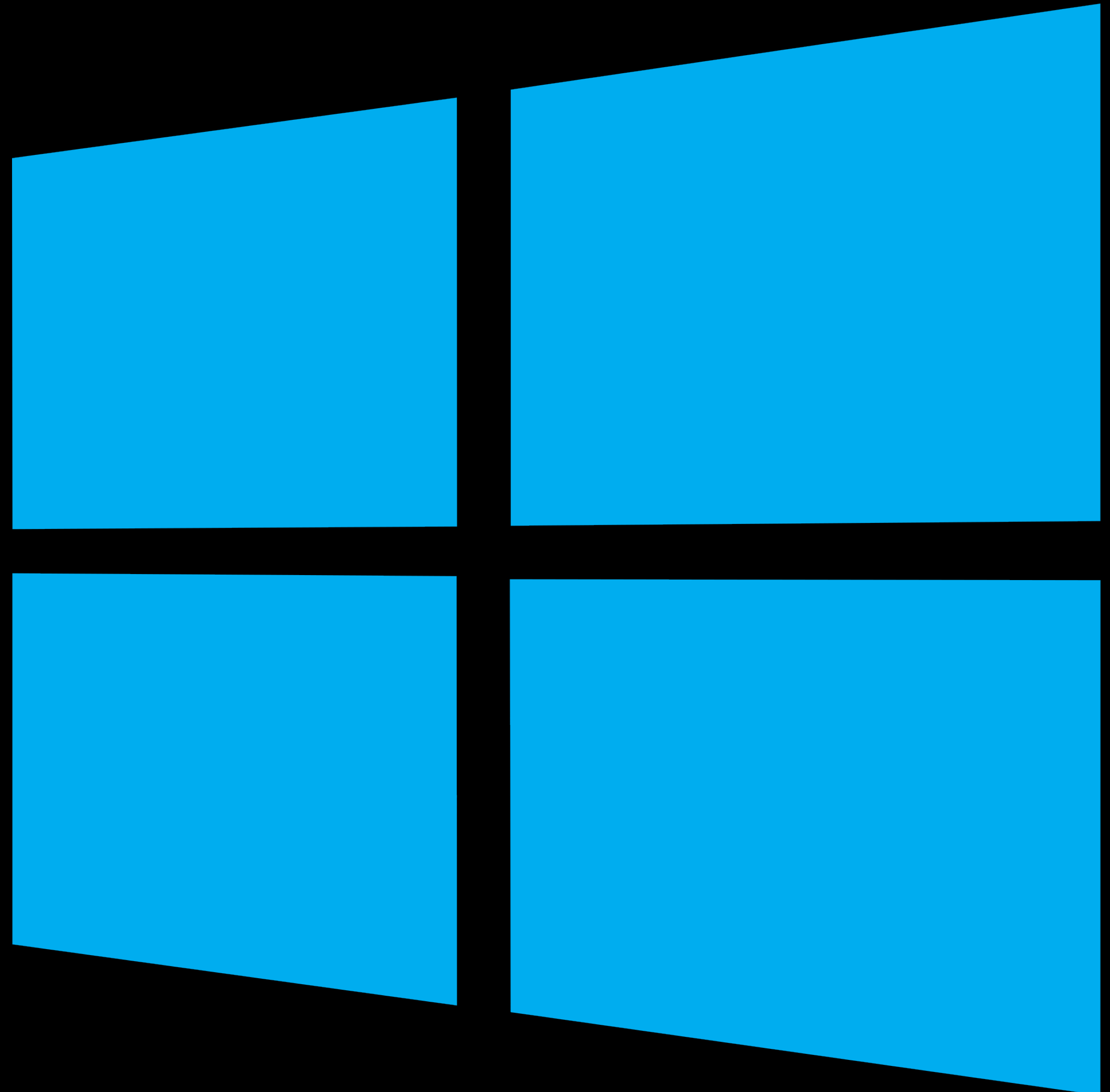
Rodrigue Cloutier, Online Technical Lead, *Ubisoft*


Developing on Windows

Deploying on Linux

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@rodcloutier



A group of five people are standing on a dark ledge at night, looking out towards the Golden Gate Bridge. The bridge is illuminated with a warm red light, and its suspension cables and towers are visible against the dark sky. The city lights of San Francisco are visible in the background. The text is overlaid in the center of the image.

**Present a bridge between
developers working on
Windows and the
Kubernetes community**



Give some exposure
Share experience
Foster discussion and awareness

**Why develop on
Windows?**





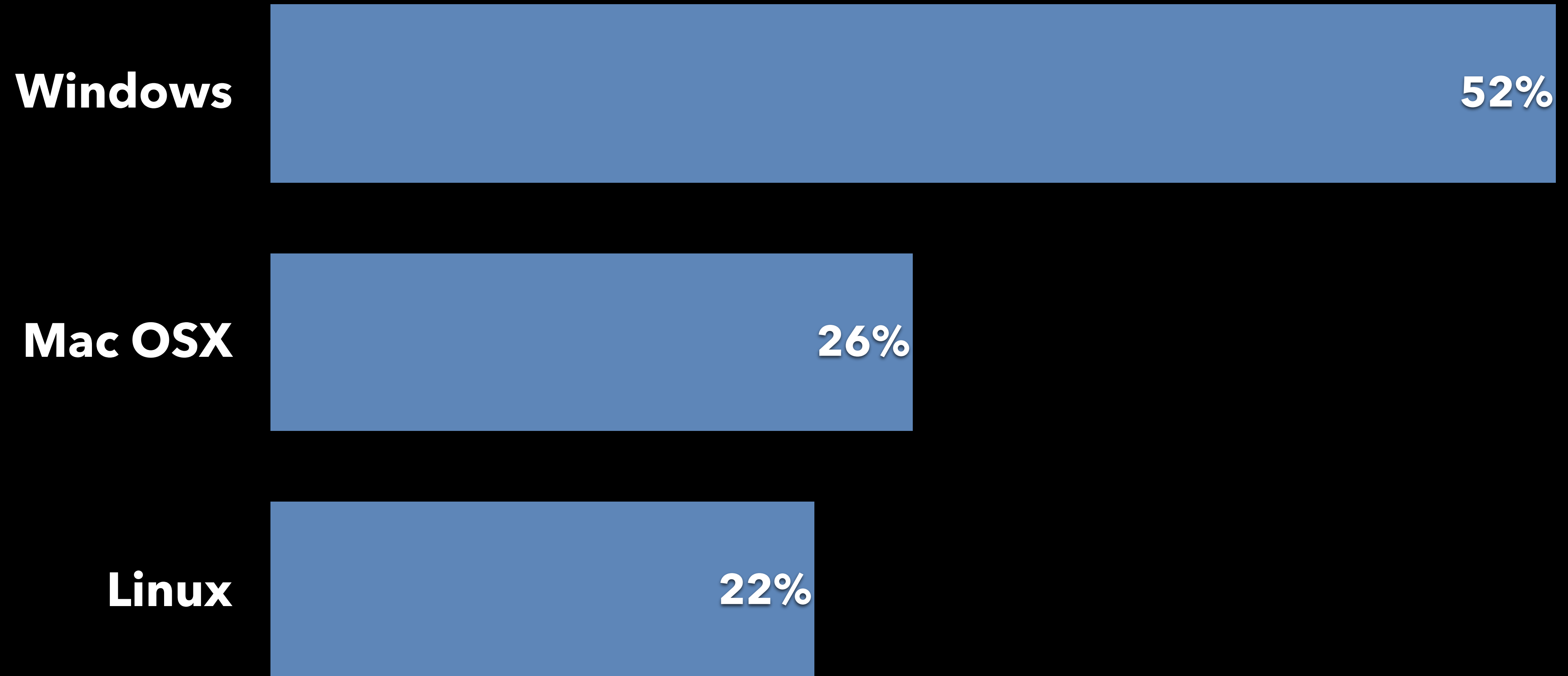
Windows 10

Redmond, WA
January 21, 2015

#windows10



More than half the programmer are on Windows



Challenges



Bridges



Tools



Actions



Challenges



impossible

studios

SAN FRANCISCO

MONTREAL

EUROPE

ABU DHABI

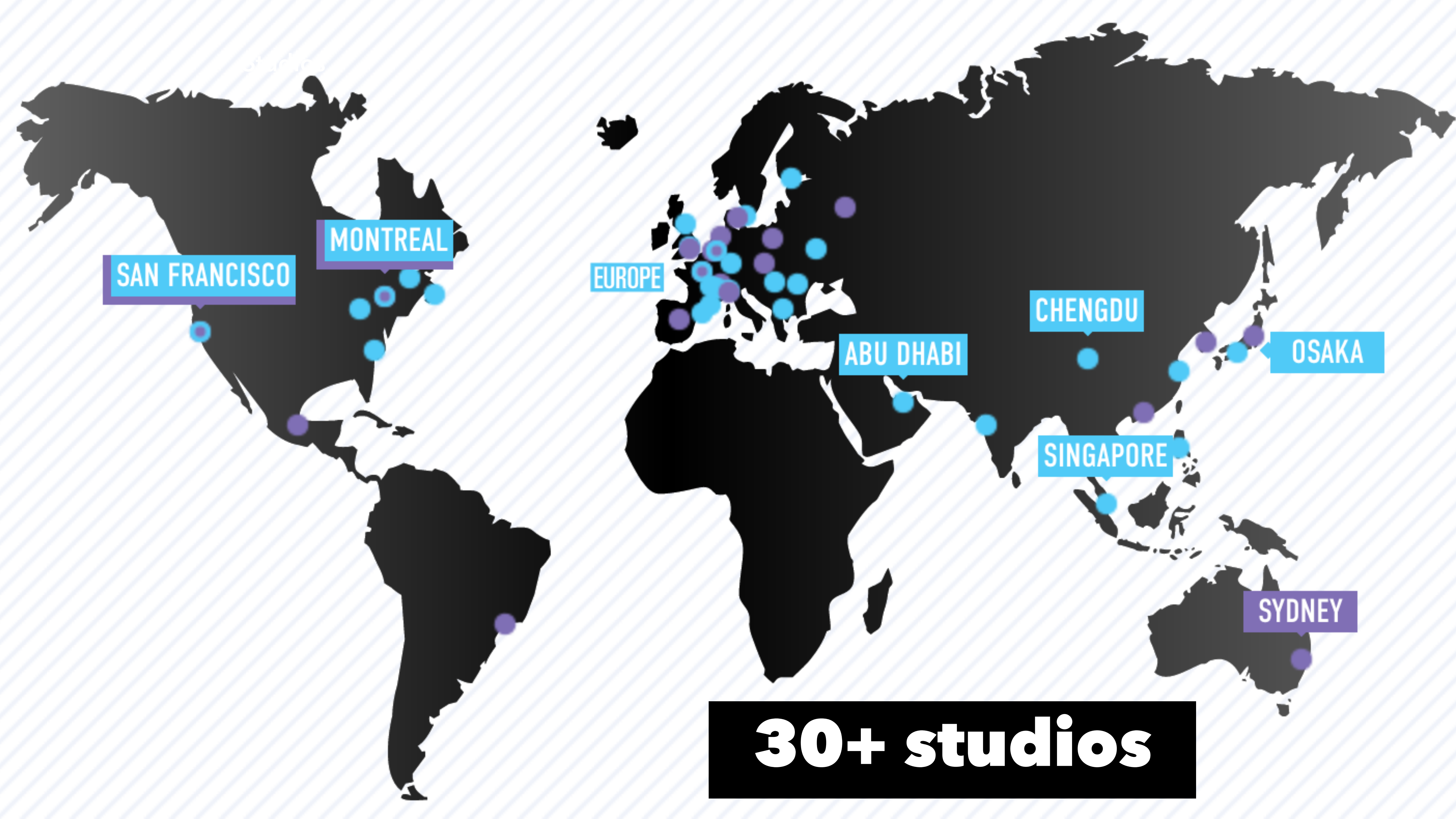
CHENGDU

SINGAPORE

OSAKA

SYDNEY

30+ studios

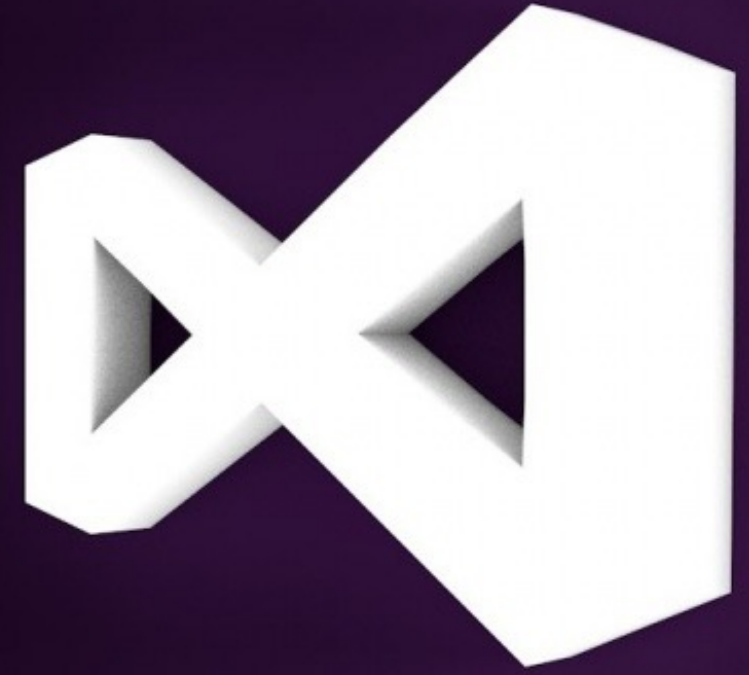




Over 10000 team members



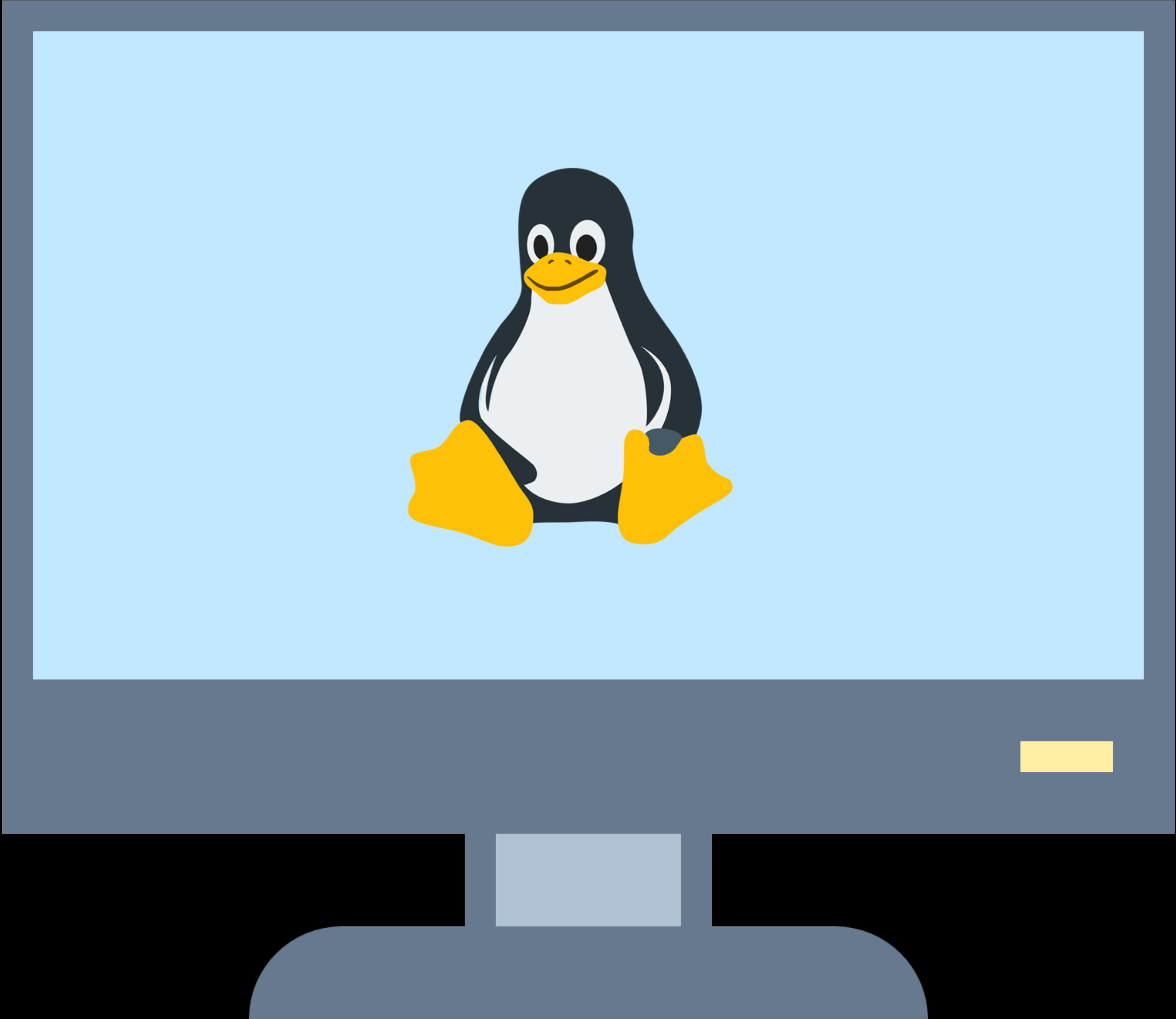
**300+ Online
developers**

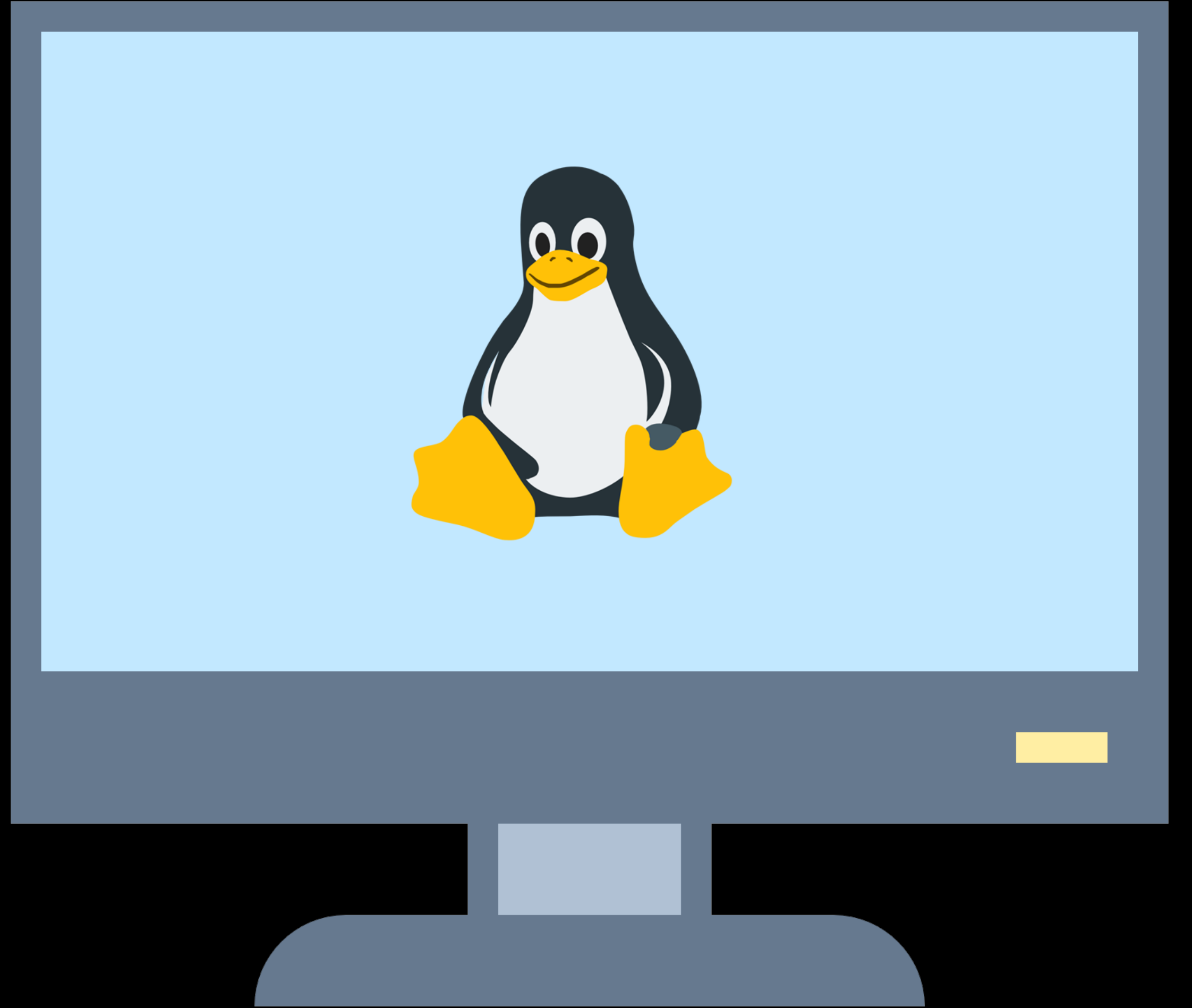
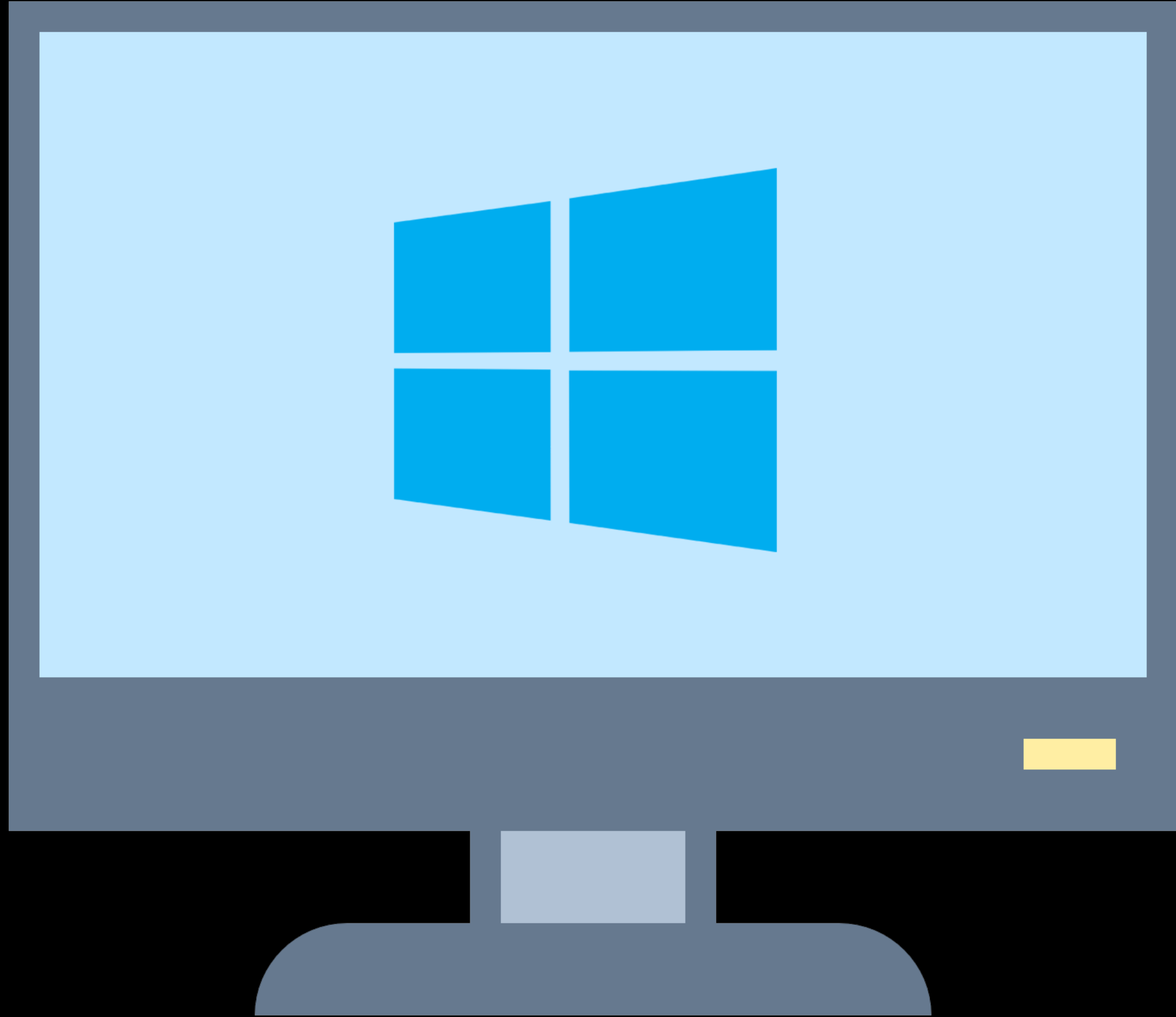


Visual Studio



Hard to *mass* switch to Linux









Focus





**Windows is a
second class citizen**



But it works!

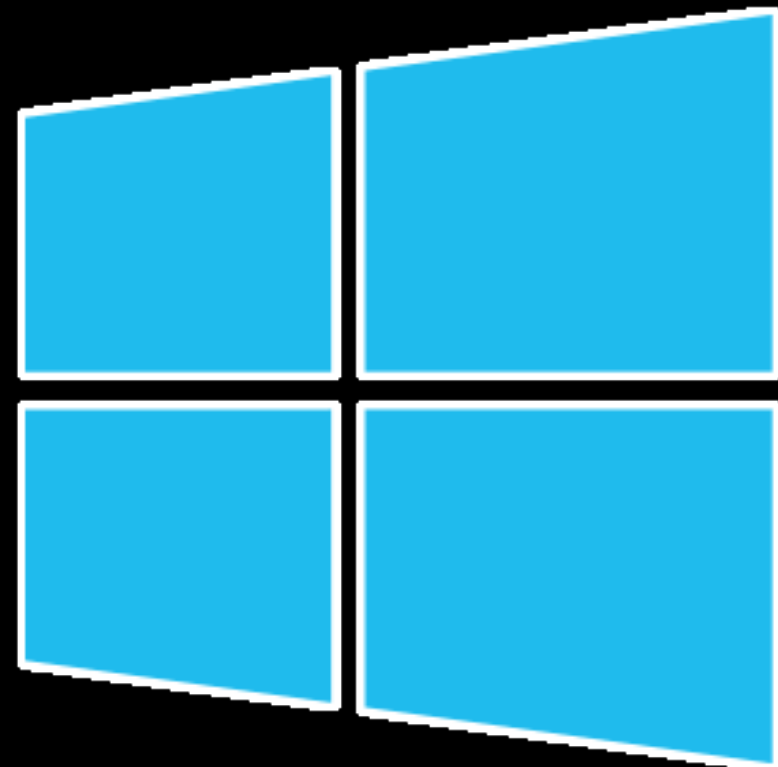


Bridges

Virtualization



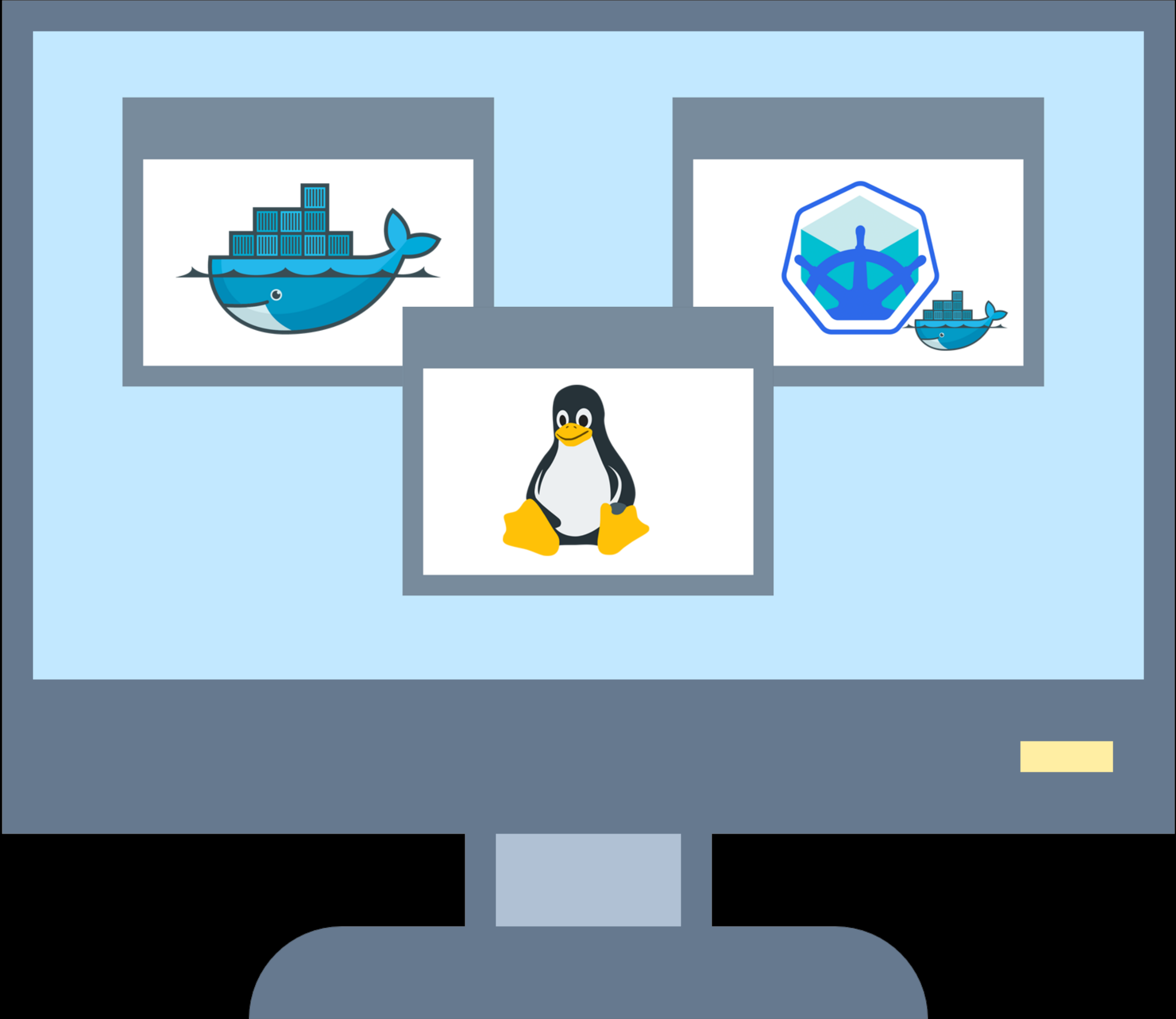
VirtualBox



Hyper-V



vmware®



Command shells

cmd shell

No bridge

Some support for .bat file

cygwin

Setup hard to automate
Self centric view

MSYS2

Tighter integration with Windows
Used by Git for Windows
Package manager

Windows Ubuntu Bash shell

Requires Windows 10

Old Ubuntu distribution 14.04

Cannot call Windows applications

It works!



Tools

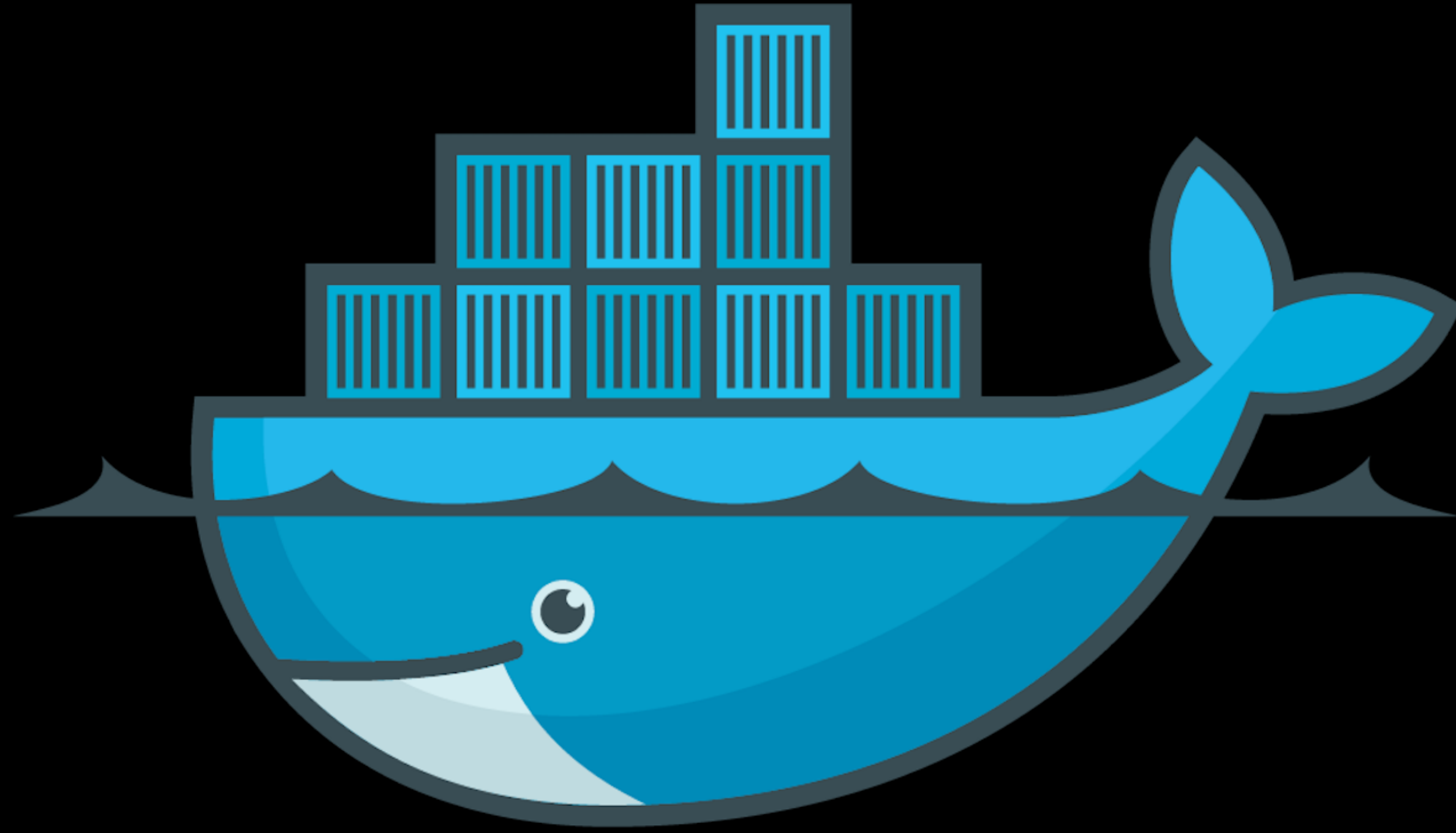


git

Git for Windows works like a charm

Provides a `msys2` shell

Cannot clone repo with illegal Windows characters



docker

Better network performances

```
# Use a better network card type
#   https://www.virtualbox.org/manual/ch06.html
# Options defined here
#   https://www.virtualbox.org/manual/ch08.html
echo "--> Updating network card to AMD PCNet FAST III"
VBoxManage modifyvm $machine --nictype1 Am79C973
```

Mount all drives

```
15:46 /k/tmp/foo
$ ls
test.pl  test.py  test.sh
15:47 /k/tmp/foo
$ docker run --rm -v $PWD:/test ubuntu ls /test
test.pl
test.py
```

```
drives=$(cat /proc/mounts | grep 'posix=0' | cut -f 1,2 -d ' ')
while drive= read -r drive; do
    win=$(echo $drive | cut -f 1 -d ' ' | sed 's@/@\\@g')
    unix=$(echo $drive | cut -f 2 -d ' ')
    share=${unix:1}

    # Note: Do this will the machine is stopped
    VBoxManage sharedfolder add $machine \
        --name ${share} --hostpath \\.\?\\${win}\\ --automount

    # Note: Do this part while the machine is running
    "mkdir -p $unix; mount -t vboxsf -o uid=100,gid=50 ${share} ${unix}"

    ## Do it for the current session.
    minikube ssh "sudo $cmd" < /dev/null

    ## Do it also for subsequent restarts.
    minikube ssh "sudo sh -c 'echo \"$cmd\">>/tmp/bootlocal.sh'" < /dev/null
done <<< "${drives[@]}"
```

POSIX like case are not enforced

Sometimes shadows files



minikube

Windows still experimental

There was no installer

We raised some issues to help support Hyper-V



Kubernetes package manager

There was no Windows build

Could not install charts built on Windows

Was assuming Linux paths

Join the right path

```
$cat main.go
```

```
package main
```

```
import (  
    "fmt"  
    "path"  
    "path/filepath"  
)
```

```
func main() {  
    fmt.Println(path.Join("a", "b", "c"))  
    fmt.Println(filepath.Join("a", "b", "c"))  
}
```

```
$ go run main.go
```

```
a/b/c
```

```
a\b\c
```



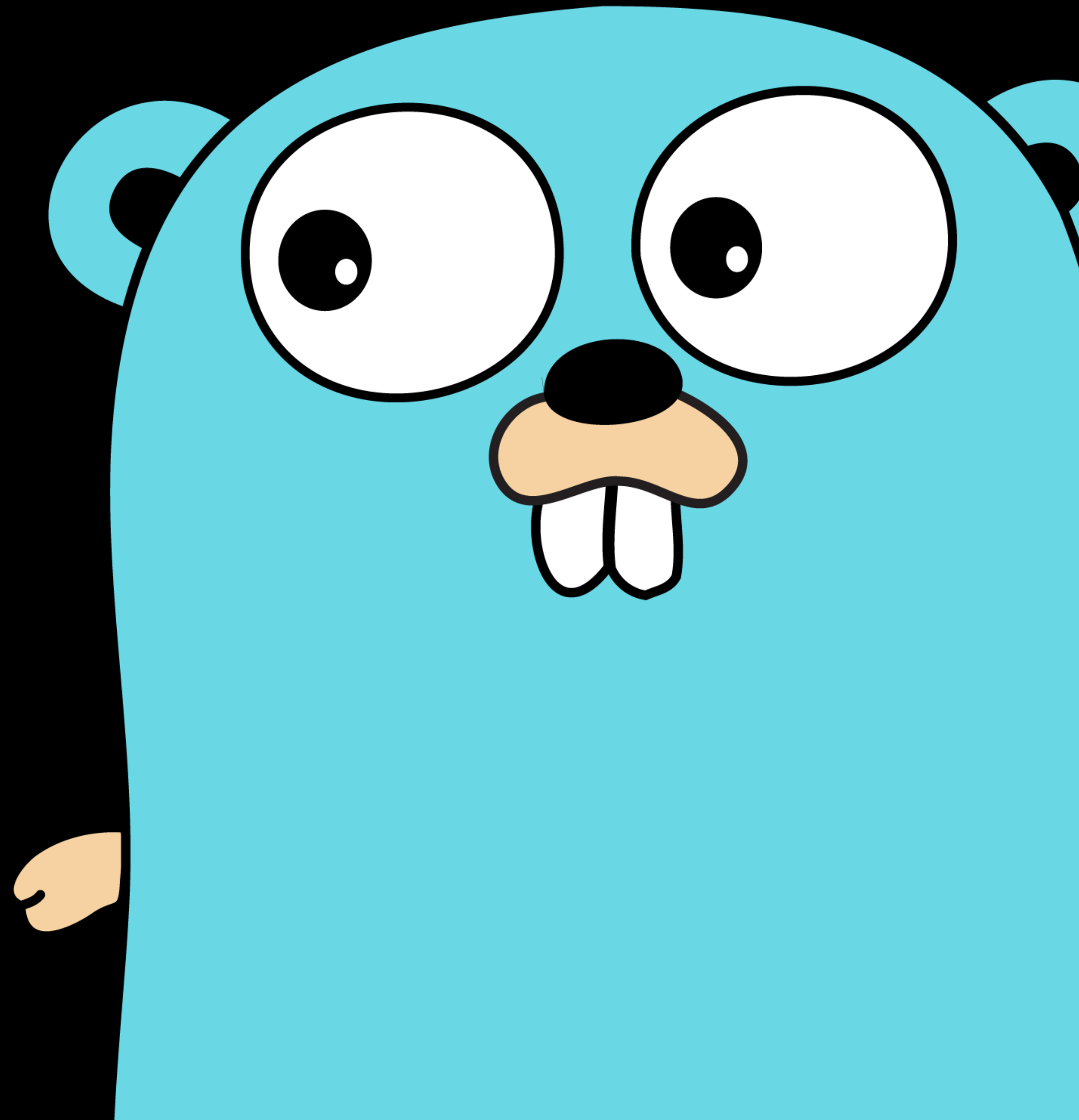
Google Cloud SDK (kubectl)

Good support for Windows

Had some problems with proxy in installer

\$HOME environment variable was not acknowledged

**Go programming
language**



Again, it works!

Actions



How can we help?



A woman with glasses is looking at a computer monitor. The monitor displays a code editor with HTML and CSS code. The background is blurred, showing other computer monitors in a workspace.

Tools consumers

Ask for Windows support

Give feedback

Contribute

Tools builders

Find contributors

Build/Test on Windows

Write installers



Challenges



Bridges



Tools



Actions



Windows POSIX bridge is possible

Tools are getting better

**We can help to onboard
Windows developers**

**Experience to share?
Questions?**



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