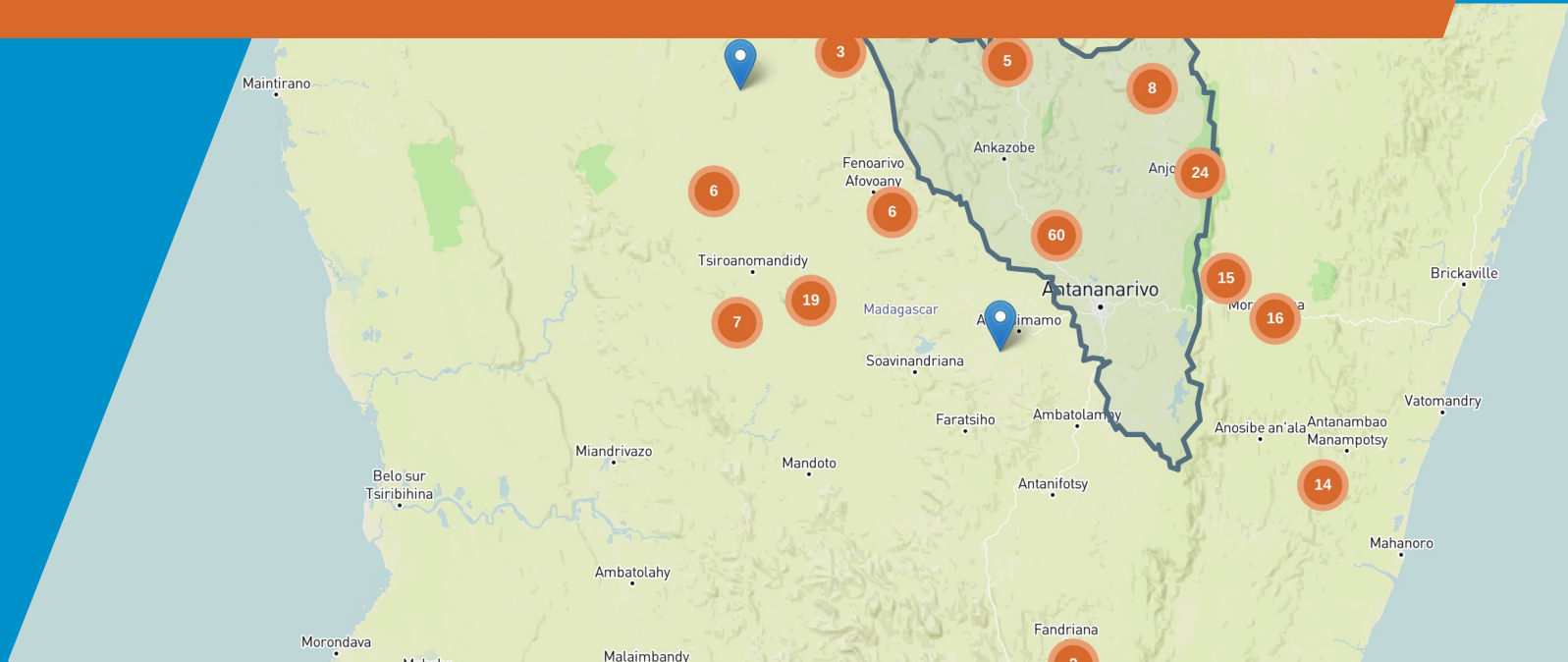# IEES · Public Health Surveillance
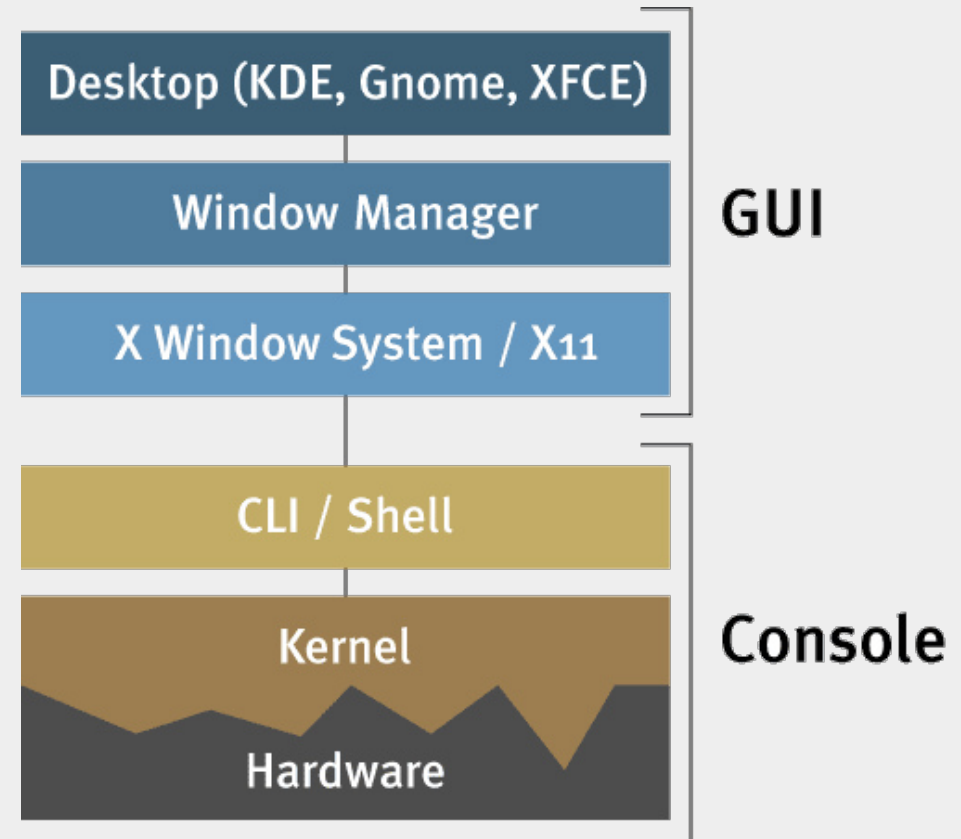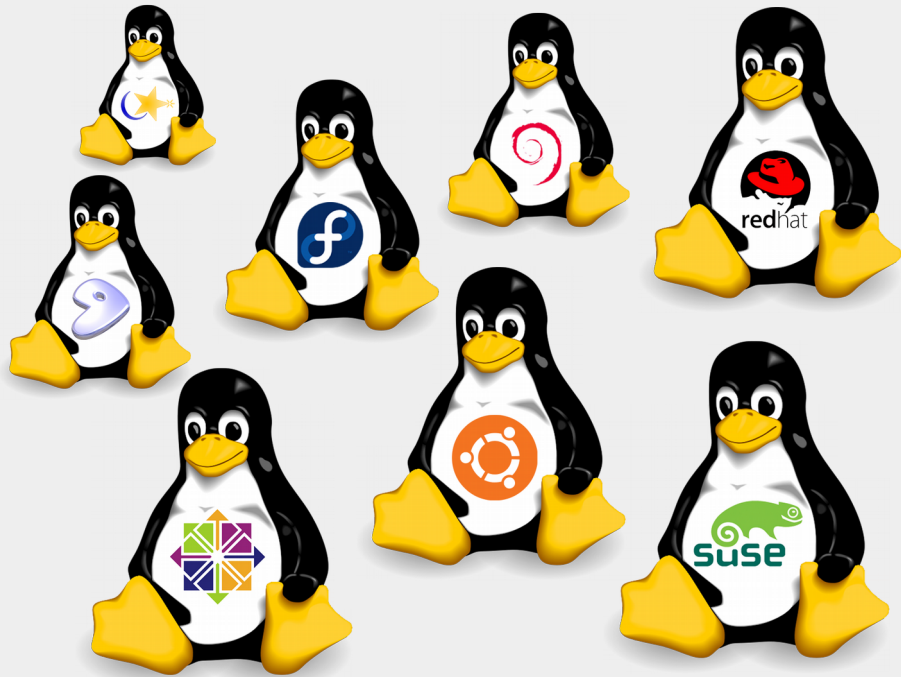

Meerkat Software Training
Server Infrastructure - Linux & Docker

Overview

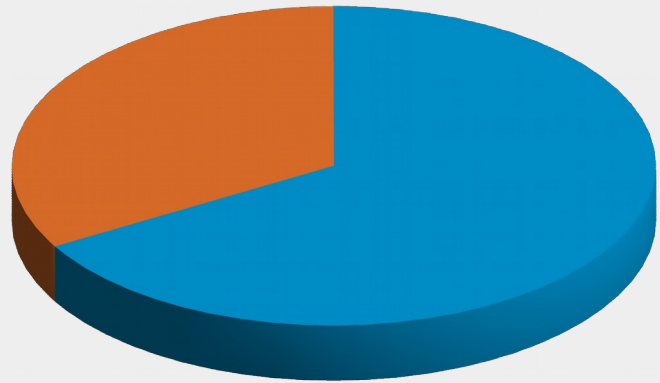- **Talk:** Recapping Linux   [15]
  Exercises: SSH & Getting started with Linux   [45]

- **Exercises:** The command line   [60]
  Talk: Text editing from the command line   [15]
  Exercises: Text editing and more command line   [60]

- **Talk:** Introduction to Docker   [15]
  Exercises: Installing docker   [30]
  Exercises: Getting started with docker   [45]

- **Exercises:** Meerkat Development Environment   [75]

What is Linux?

Desktop (KDE, Gnome, XFCE)	GUI
Window Manager	
X Window System / X11	
CLI / Shell	Console
Kernel	
Hardware	

Why Linux?
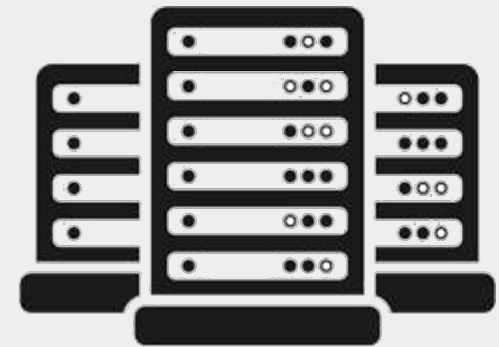
66% use in
public servers

71%
of mobile devices
(Android)

Power.
Flexibility.
Support.

100% use in
Top500 supercomputers

How do we use Linux?

```
jonathan@ullswater:~$ whoami
jonathan
jonathan@ullswater:~$ cd meerkat/
jonathan@ullswater:~/meerkat$ ls
bower_components      meerkat_analysis  meerkat_docs          meerkat_jordan   meerkat_puntland      meerkat_tunnel
deploy                meerkat_api       meerkat_forager       meerkat_libs     meerkat_rms           node_modules
Dr Jonathan S Berry   meerkat_auth      meerkat_forms         meerkat_logging  meerkat_runner        training
Fjelltopp Ltd         meerkat_consul    meerkat_frontend      meerkat_mad      meerkat_somalia       website
meerkat               meerkat_deploy    meerkat_hermes        meerkat_mob      meerkat_somaliland    who-collect
meerkat_abacus        meerkat_dev       meerkat_infrastructure meerkat_nest    meerkat_southcentral
jonathan@ullswater:~/meerkat$ cd meerkat_dev/compose/
jonathan@ullswater:~/meerkat/meerkat_dev/compose$ docker-compose up -d
Starting compose_db_1 ...
Starting compose_auth_1 ...
Starting compose_mob_1 ...
Starting compose_hermes_1 ...
Starting compose_api_1 ...
Starting compose_rabbit_1 ...
Starting compose_dynamodb_1 ...
Starting compose_frontend_1 ...
Starting compose_rabbit_1 ... done
Starting compose_frontend_1 ... done
Starting compose_runner_1 ... done
Starting compose_auth_1 ... done
Starting compose_nginx_1 ... done
jonathan@ullswater:~/meerkat/meerkat_dev/compose$ █
```


PuTTY

Meerkat Software Training

Exercise: SSH into a linux server

Installing and using PuTTY

Exercise: The Command Line

http://guide.bash.academy/

Editing text documents

No mice.
No windows.
No graphics.

VIM: My personal text editor of choice

jonathan@ullswater: ~   En₁   22:02

```
                        VIM - Vi IMproved


                        version 7.4.1689
                     by Bram Moolenaar et al.
        Modified by pkg-vim-maintainers@lists.alioth.debian.org
           Vim is open source and freely distributable


                   Become a registered Vim user!
         type  :help register<Enter>   for information


         type  :q<Enter>               to exit
         type  :help<Enter>  or   <F1>  for on-line help
         type  :help version7<Enter>   for version info
```
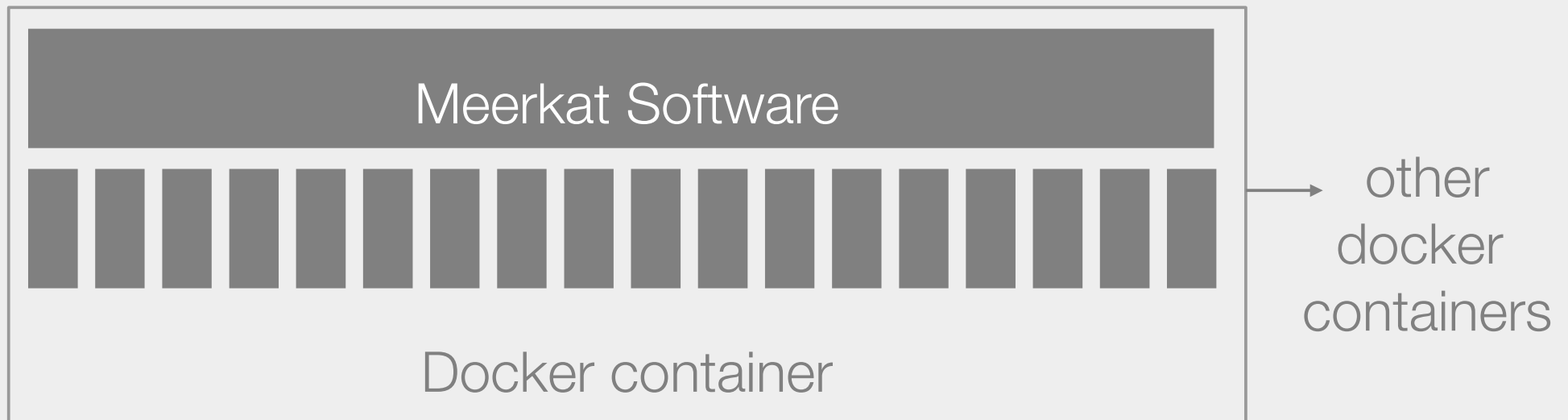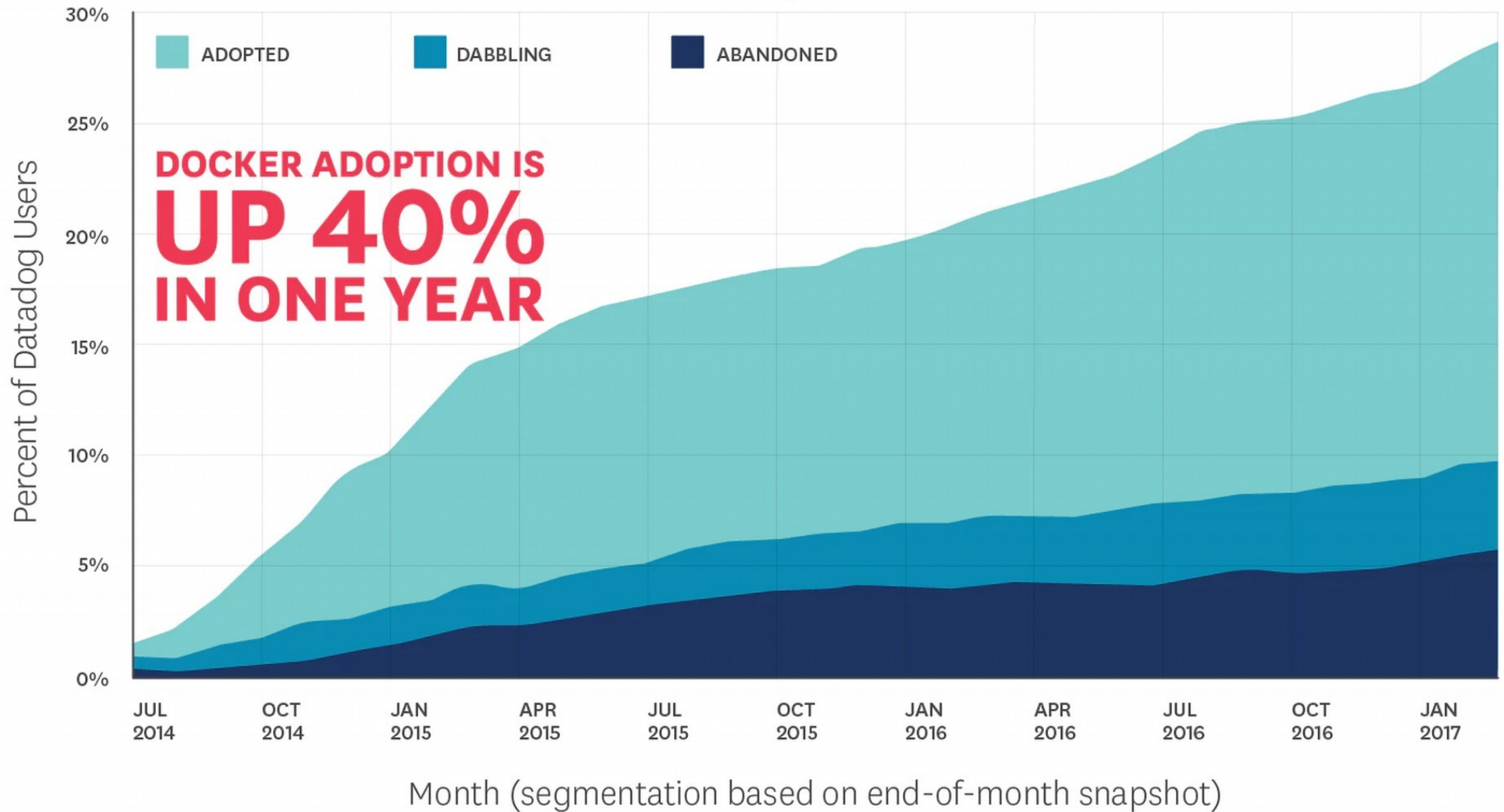
                                                    0,0-1   All

What is Docker?

Meerkat Software

Docker container

other docker containers

Why Docker?

Docker Adoption Behavior

ADOPTED   DABBLING   ABANDONED

DOCKER ADOPTION IS UP 40% IN ONE YEAR

Percent of Datadog Users

30%
25%
20%
15%
10%
5%
0%

JUL 2014   OCT 2014   JAN 2015   APR 2015   JUL 2015   OCT 2015   JAN 2016   APR 2016   JUL 2016   OCT 2016   JAN 2017

Month (segmentation based on end-of-month snapshot)

Source: Datadog

How do we use Docker?

Docker Container	Running machine	
		`docker up`
Docker Image	Compiled form	
		`docker build`
Docker File	Code form	

Exercise: Installing Docker

Hello World!

Exercise: Getting started

Create some containers

Summary

Linux is essential to working with Meerkat

There is a huge amount of freely available support
e.g. http://guide.bash.academy/

Docker separates software from infrastructure

Docker is essential to administering Meerkat

There is a huge amount of freely available support
e.g. https://docs.docker.com/