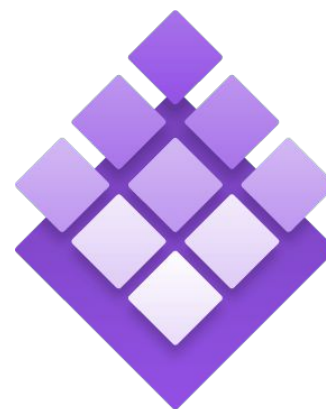
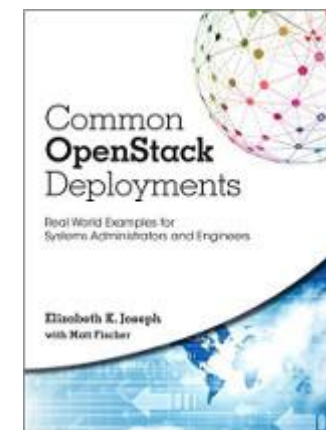
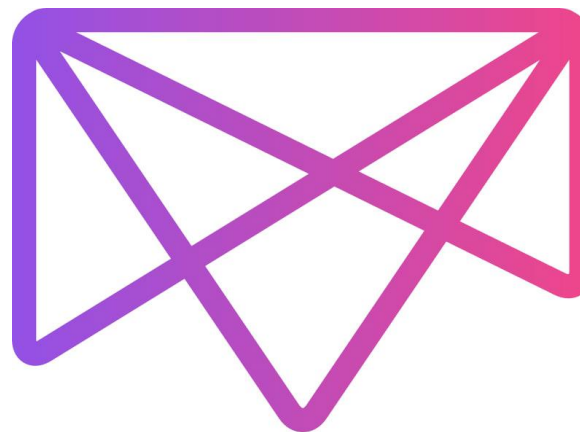

The Open Sourcing of Infrastructure

CubaConf 2017
Elizabeth K. Joseph
@pleia2



Elizabeth K. Joseph, Developer Advocate

- ❑ Developer Advocate at Mesosphere working on DC/OS, Apache Mesos
- ❑ 15+ years working in open source communities
- ❑ 10+ years in Linux systems administration and engineering roles
- ❑ Founder of OpenSourceInfra.org
- ❑ Author of The Official Ubuntu Book and Common OpenStack Deployments



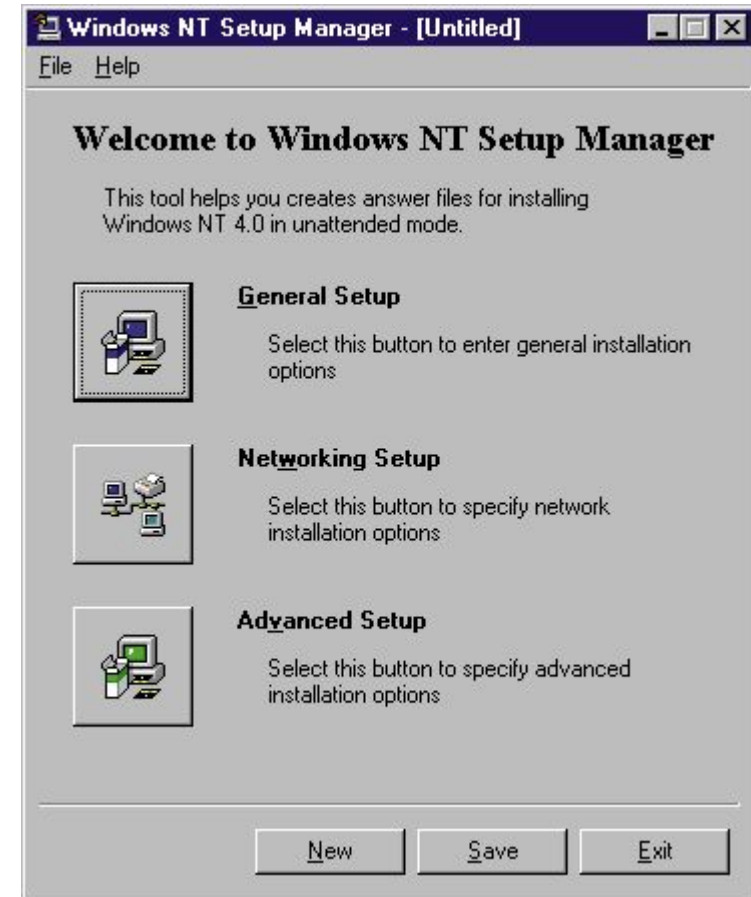
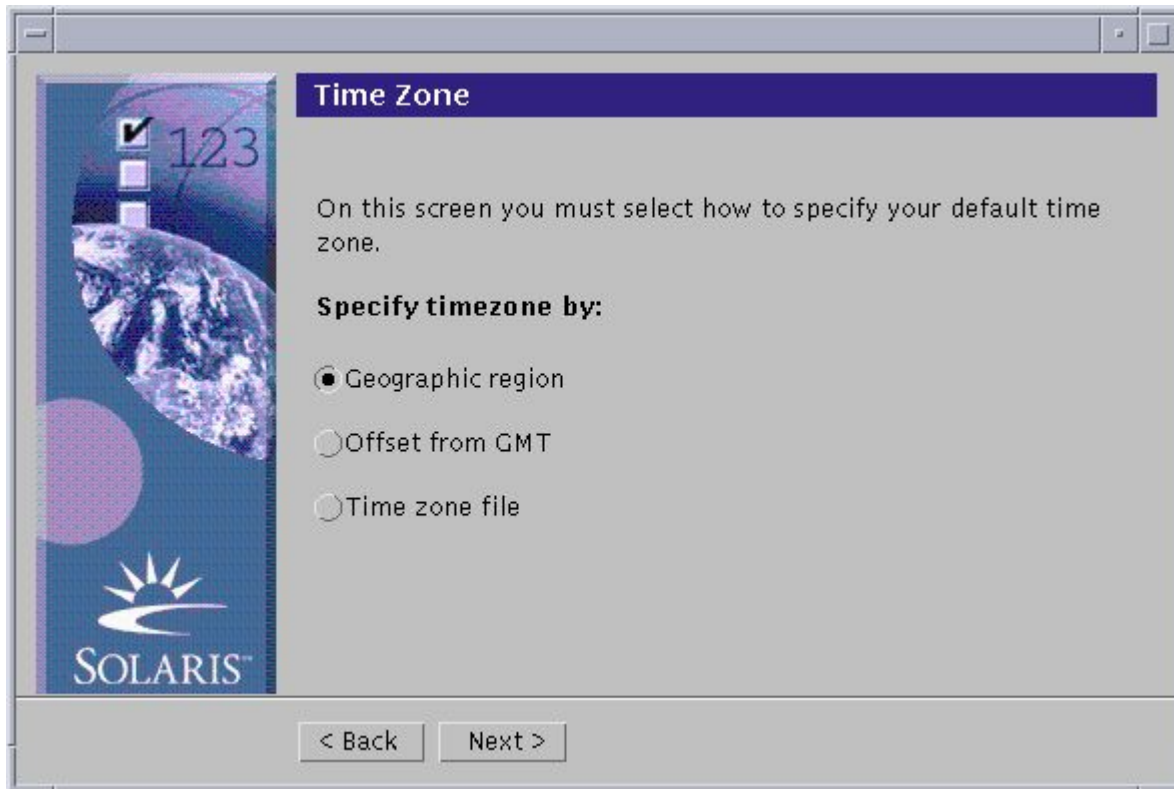
DC/OS



The [recent] history of infrastructure

(from a highly opinionated,
open source view)

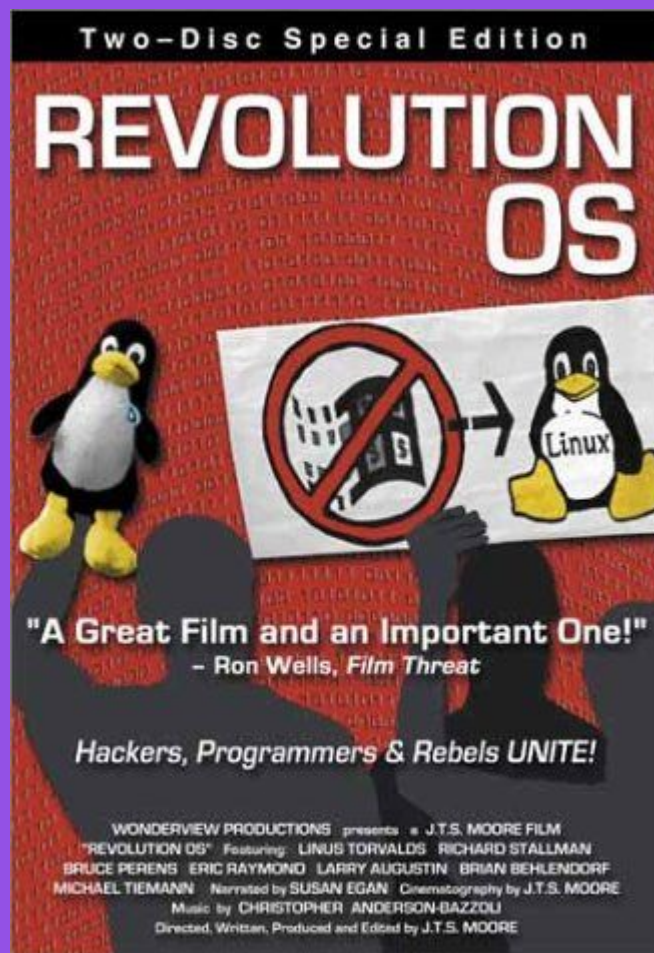
“To make a server, first add...”



And so rose the proprietary world of software

With proprietary Unix and Windows-based platforms, the stage was set for the golden age of proprietary software in the 1990s and into the 2000s.





Linux was an upstart,
at best seen as
“cheap Unix”

Lots of FUD around
open source

I liked it anyway.

So I got a junior Linux systems administrator job!

Some of the topics during a seminar I spoke at in the 00s

- What is Free/Open Source Software (FOSS)?
- How & Why Linux and FOSS can Deliver Business Results
- Managing FOSS: Thousands of Alternatives - How To Choose?
- Using Open Source Web Applications to Produce Business Results

Turning point: LAMP stack



Flood of changes to how we interact with software

Reluctance to be locked-in by a vendor

Greater concern over security

Wanted the ability to fix bugs ourselves

Learned that innovation is stifled when software is developed in isolation

Flood of changes to how we use software

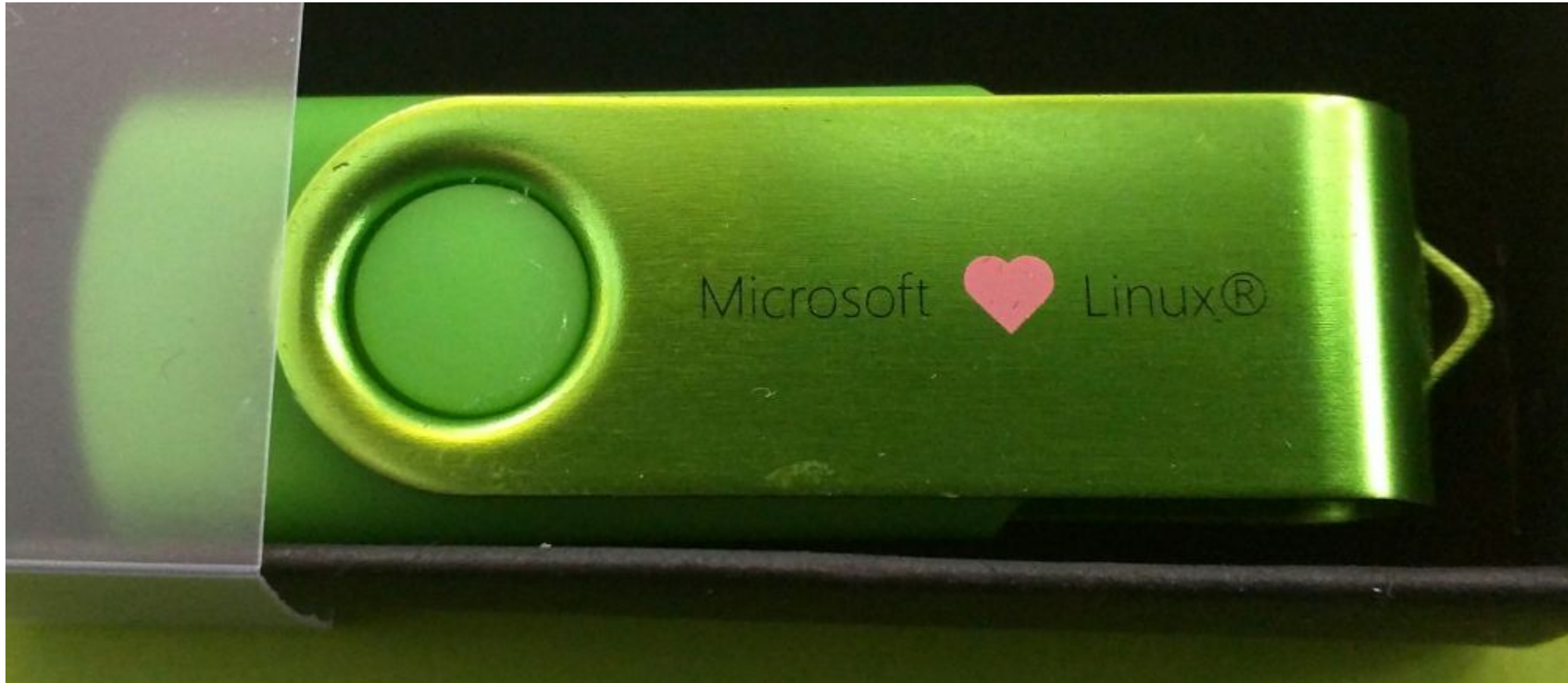
Downtime becoming [considerably more] unacceptable

Increase in reliance upon scaling and automation

Transition from server “pets” to “cattle”

Larger focus on data (retention, speed)

Open source is now ubiquitous



Organizations with the most open source contributors

	Microsoft	16,419
	facebook	15,682
	docker	14,059
	angular	12,841
	google	12,140
	atom	9,698
	FortAwesome	9,617
	elastic	7,220
	Apache	6,999
	npm	6,815

Source: “The state of the Octoverse 2016” <https://octoverse.github.com/>

Developers are using, developing on, **contributing to, and sharing** open source software!



Operations is using and developing on open source software.



When I left my ops job, I left my tools behind



Time to open source ops stuff!

Done!

Configuration management

Puppet Modules

Chef Cookbooks

Ansible Playbooks

Open application definitions

DC/OS Universe Catalog

Juju Charms

Full disk images

Dockerhub and other container registries

Welcome to the present!

Open Sourcing Infrastructure:

PHASE 2

What were some of the reasons for going open source in the first place?

- Security
- Ability to diagnose and fix bugs without vendor intervention
- Increased control over our data and services
- Avoiding vendor lock-in

The Cloud.

Including IaaS, PaaS, SaaS...

“Most people just consume the cloud without thinking ... many users are sinking cost into infrastructure that is not theirs, and they are giving up data and information about themselves without thinking.”

Edward Snowden, OpenStack Summit, May 9, 2017

Let's think.

Does the vendor have a history of communicating clearly and honestly with their customers about downtime, security, etc?

You *could* consider all these things and acknowledge them as acceptable risks.

Many organizations do!

Just make sure you are *actually, seriously* considering them

Or look again to Open Source!

Various infrastructure technologies are available:

- OpenStack
- Kubernetes* and Docker swarm mode*
- DC/OS*
- ...more in the future!

* Can be used in the cloud or on premises



Even further into the future

Open Source the Whole Stack

Infrastructure, configurations, tools, images



[OpenStack](#)

[OSUOSL](#)

[KDE & Gnome](#)

[Debian & Ubuntu](#)



And more at opensourceinfra.org

What do these projects get?

Contributions
from anyone,
anywhere

Vendor
independence

No lock-in

Community
ownership

Slides

<http://princessleia.com/presentations/2017/>

“Why open source should be the first choice for cloud-native environments” article

<https://opensource.com/article/17/8/open-sourcing-infrastructure>

Questions?

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