

An aerial photograph of a modern, multi-lane highway bridge that curves along a steep, rocky cliffside overlooking the ocean. The bridge is supported by several concrete pillars. The ocean is a deep blue, and the sky is overcast. The text 'WHY YOU SHOULD ADOPT OPEN INFRASTRUCTURE' is overlaid in white, bold, sans-serif font on the left side of the image.

**WHY
YOU SHOULD ADOPT
OPEN INFRASTRUCTURE**



HELLO!

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And ttx on Freenode IRC



1. INFRASTRUCTURE

Application deployers want programmable infrastructure

PILING UP ABSTRACTIONS



PILING UP ABSTRACTIONS



Market pressure

Commoditizing
the lower layers

PILING UP ABSTRACTIONS



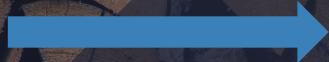
Market pressure

Commoditizing
the lower layers

Developers pressure

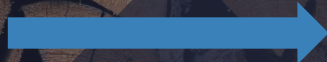
Abstracting differences
between lower layers

Users



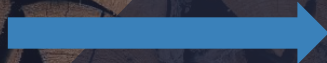
Applications

Users



Physical hardware

Users

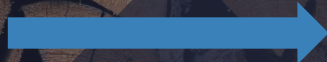


Application
developers
& deployers



Physical hardware

Users



Application
developers
& deployers

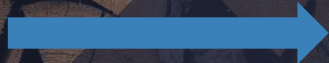


Hardware virtualization



Physical hardware

Users



Application
developers
& deployers



IaaS APIs

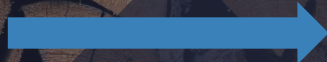


Hardware virtualization



Physical hardware

Users



Application
developers
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Application deployment APIs



IaaS APIs



Hardware virtualization



Physical hardware

INFRASTRUCTURE EVOLUTION



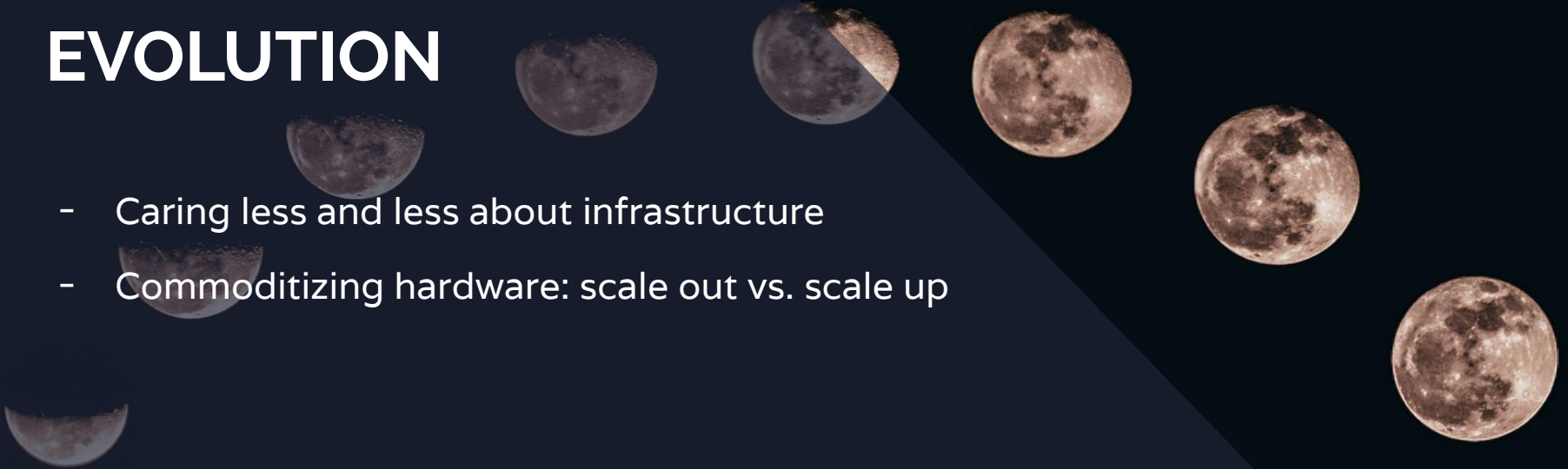
INFRASTRUCTURE EVOLUTION

- Caring less and less about infrastructure



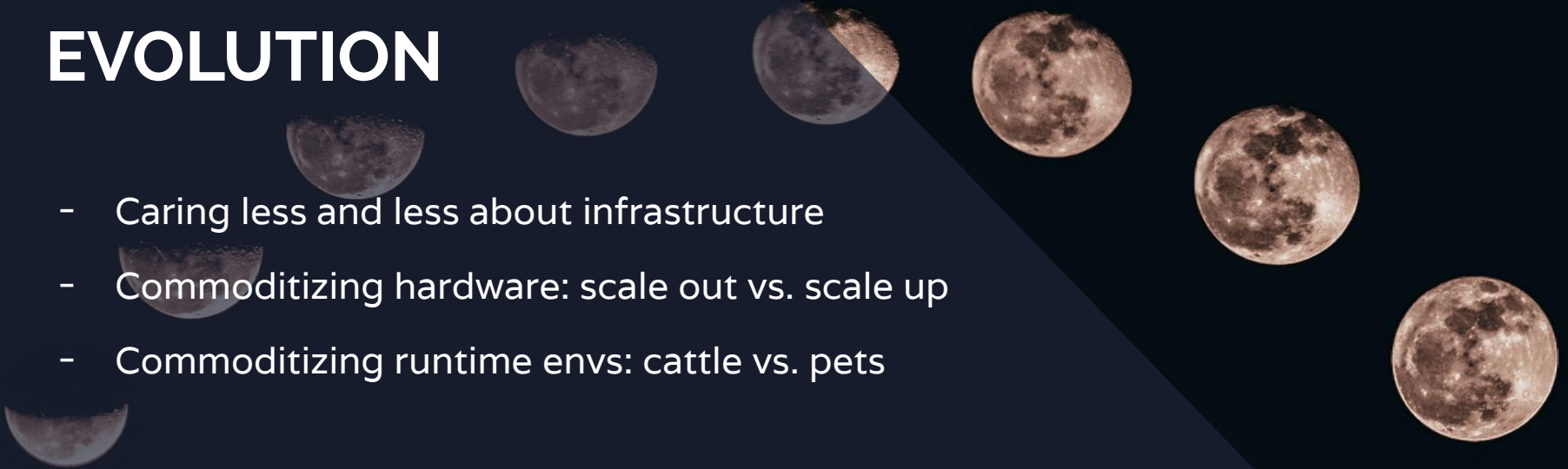
INFRASTRUCTURE EVOLUTION

- Caring less and less about infrastructure
- Commoditizing hardware: scale out vs. scale up



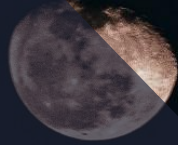
INFRASTRUCTURE EVOLUTION

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- Commoditizing runtime envs: cattle vs. pets



INFRASTRUCTURE EVOLUTION

- Caring less and less about infrastructure
- Commoditizing hardware: scale out vs. scale up
- Commoditizing runtime envs: cattle vs. pets
- VMs, containers, functions... this is not over



**MORE SOFTWARE,
LESS HARDWARE**



MORE SOFTWARE, LESS HARDWARE

- Optimizing for utilization

MORE SOFTWARE, LESS HARDWARE

- Optimizing for utilization
- Reducing development cycle costs

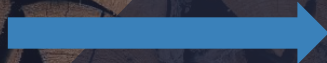
MORE SOFTWARE, LESS HARDWARE

- Optimizing for utilization
- Reducing development cycle costs
- Reducing deployment cycle costs

MORE SOFTWARE, LESS HARDWARE

- Optimizing for utilization
- Reducing development cycle costs
- Reducing deployment cycle costs
- Changing more often, reacting faster

Users

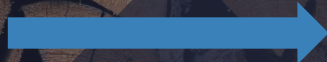


Application
developers
& deployers



Physical hardware

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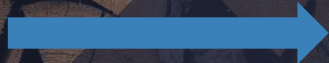


Hardware virtualization



Physical hardware

Users



Application
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IaaS APIs

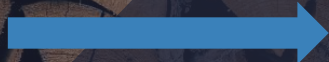


Hardware virtualization



Physical hardware

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Application
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Application deployment APIs



IaaS APIs

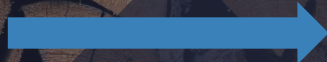


Hardware virtualization



Physical hardware

Users



Application
developers
& deployers



Infrastructure
providers





Infrastructure
providers



A scenic landscape of a fjord with mountains and a lake, split by a diagonal line. The left side is dark and shadowed, while the right side is bright and clear. The sky is filled with dramatic, layered clouds. The water is calm, reflecting the sky and the surrounding rocks.

2. OPEN

Providing infrastructure using open source components



AVAILABILITY

Lack of barrier to trying out the software with all of its functionality.

Absence of friction in transitioning from experimentation to production.

A background image featuring several wind turbines silhouetted against a vibrant sunset sky with orange and yellow hues. The foreground is dark, showing the silhouettes of palm trees. A diagonal dark blue overlay covers the left side of the image, where the text is placed.

SUSTAINABILITY

Existence of a multi-vendor market able to provide maintenance services over the software, making the choice of a given organization to use the software less dependent on the health of the software vendor, and limiting the risk of lock-in.



FLUID JOB MARKET

Easy identification of potential recruits based on the open record of their contributions to the technology they are interested in.

Easily evaluation of recruiting organizations based on the open source technologies they are using.



TRANSPARENCY

Ability to look under the hood and understand how the software works, or why it behaves the way it does. Increases your speed in reacting to unexpected behavior or failures.

SELF-SERVICE

A man with white hair and glasses, wearing a striped polo shirt, is focused on working on a large, dark metal component. He is using a tool that produces a bright spark and some smoke. The background is a dimly lit workshop or industrial setting with a stone wall and some equipment. The overall tone is professional and emphasizes hands-on expertise.

Ability to find and fix issues by yourself,
without even depending on a vendor.
That further increases your speed in reacting
to unexpected behavior or failures.

INFLUENCEABILITY

Possibility to engage in the community developing the software, and to influence its direction by contributing directly to it.

Organizations that engage in the open source communities can make sure the software adapts to future needs by growing the features they will need tomorrow.



OPEN SOURCE BENEFITS

- Availability
- Sustainability
- Fluid job market
- Transparency
- Self-service
- Influenceability



3. THE THREE Cs

Capabilities, Compliance and Cost



CAPABILITIES



One size does not fit all.

Some features are just overpriced (GPUs).

Some features are just missing.

COMPLIANCE

Legal requirements around data locality.

Confidentiality around strategic companies.





COST

If you are interested by private infrastructure,
open infrastructure will keep the price low.

And if you want to provide public infrastructure,
you should not start from scratch.

4. INTEROPERABILITY

Facilitating hybrid cloud scenarios



Cost per CPU core



Number of cores

Cost per CPU core



Public cloud pricing

Number of cores

Cost per CPU core



Private cloud

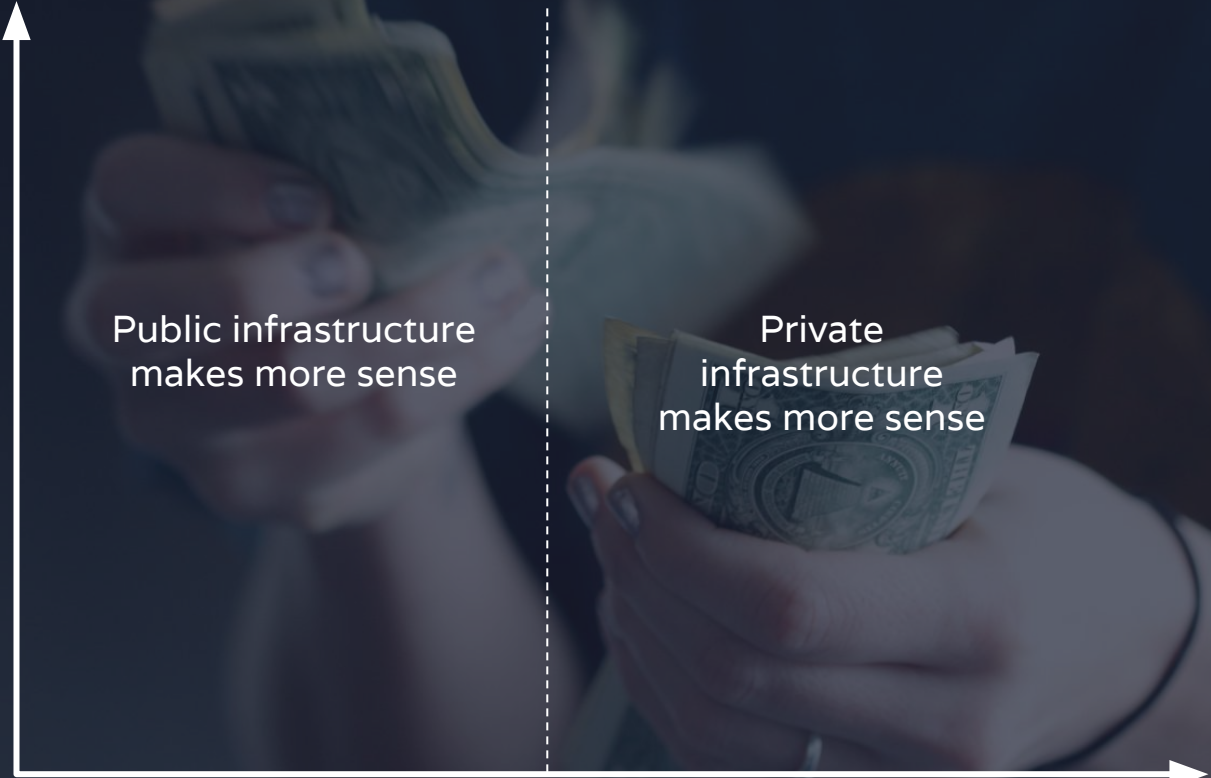
Number of cores

Cost per CPU core



Number of cores

Cost per CPU core



Public infrastructure
makes more sense

Private
infrastructure
makes more sense

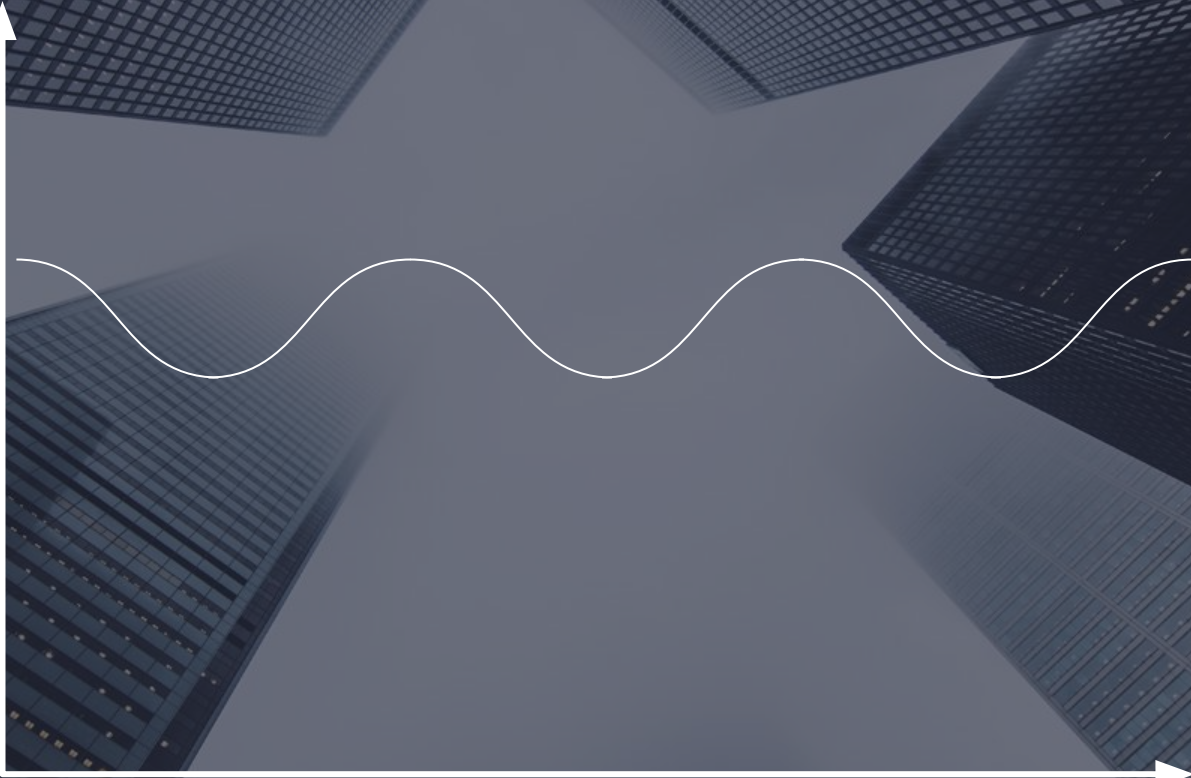
Number of cores

Number of cores



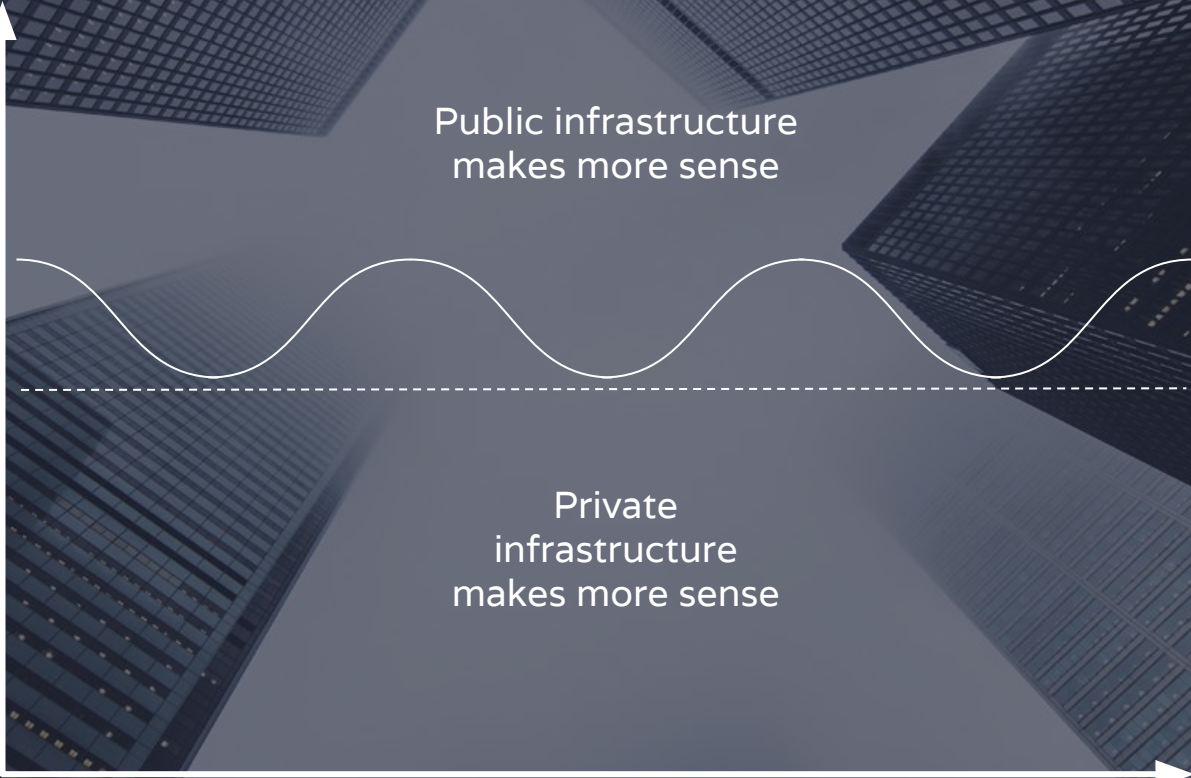
Time

Number of cores



Time

Number of cores



Public infrastructure
makes more sense

Private
infrastructure
makes more sense

Time

**HYBRID,
INTEROPERABLE
INFRASTRUCTURE**



HYBRID, INTEROPERABLE INFRASTRUCTURE

- Hybrid clouds allow to optimize cost



HYBRID, INTEROPERABLE INFRASTRUCTURE

- Hybrid clouds allow to optimize cost
- Hybrid clouds enable capabilities & compliance



HYBRID, INTEROPERABLE INFRASTRUCTURE

- Hybrid clouds allow to optimize cost
- Hybrid clouds enable capabilities & compliance
- Interoperable public & private clouds reduce applications cost



The background of the image consists of a dense stack of cut logs. The logs are arranged in a way that creates a textured, circular pattern. A diagonal line, starting from the top right and extending towards the bottom left, divides the image into two distinct color zones. The area to the left of this line is a dark, almost black, gradient, while the area to the right is a lighter, warm brown gradient. The text is positioned in the dark area on the left side.

INTEROPERABILITY IN OPEN INFRA



INTEROPERABILITY IN OPEN INFRA

Kubernetes

Promises
interoperability at the
app deployment layer

A background image showing a stack of cut logs. The logs are arranged in a somewhat regular pattern, with their circular ends facing the viewer. The lighting is dramatic, with the top surfaces of the logs appearing bright and golden-brown, while the sides and the spaces between them are in deep shadow, creating a strong contrast. The overall color palette is dominated by dark browns and blacks, with highlights of light tan and gold.

INTEROPERABILITY IN OPEN INFRA

Kubernetes

Promises
interoperability at the
app deployment layer

OpenStack

Promises
interoperability at the
infrastructure layer



5. FUTURE-PROOF

Investing in communities rather than in products



THE FUTURE



THE FUTURE

- Abstractions will continue to be piled

THE FUTURE

- Abstractions will continue to be piled
- There is no miracle technology that will end all technologies

THE FUTURE

- Abstractions will continue to be piled
- There is no miracle technology that will end all technologies
- There will always be applications and infrastructure

BE FUTURE-PROOF



BE FUTURE-PROOF

The background of the slide is a dark, artistic photograph. It features a camera lens in the center, which reflects a cityscape at night with illuminated buildings. The background is filled with out-of-focus, warm-toned bokeh lights, creating a sense of depth and a futuristic or technological atmosphere. A diagonal line runs across the image from the top-left towards the bottom-right.

- Open source allows to invest in communities, rather than products

BE FUTURE-PROOF



- Open source allows to invest in communities, rather than products
- OSF tackles the angle of the infrastructure provider, and helps people build and operate open source solutions for infrastructure

SO... WHY CHOOSE OPEN INFRA ?

- Availability
- Sustainability
- Fluid job market
- Transparency
- Self-service
- Influenceability
- Compliance
- Capabilities
- Cost
- Interoperability
- Enabling hybrid usage
- Future-proof

A scenic landscape featuring a stone path that winds through a lush green field. In the background, there are rolling hills and mountains, some of which are shrouded in mist or low clouds. The sky is overcast. A small wooden bench is visible on the right side of the path. The overall atmosphere is peaceful and natural.

6. ENABLE INNOVATION

Creating ideal conditions for innovation everywhere



AVOID MONOPOLIES

It is not economically sane to have all of the world's infrastructure needs being provided by a couple of Internet giant companies.

AVOID MONOCULTURES

The background features a diagonal split between a dark brown color on the left and a bright orange color on the right. Overlaid on this is a pattern of numerous bubbles of varying sizes, some appearing as dark brown spheres and others as bright orange spheres, creating a textured, organic effect.

It is not safe to have all of the worlds infrastructure needs being provided by a couple of Internet giants



ENABLE EVERYONE

Giving everyone access to infrastructure providing technologies makes sure that we maximize innovation in the world.

THANKS!



Any questions?

Shy?

You can reach me at @tcarrez on Twitter

Or email me at thierry@openstack.org

Credits

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