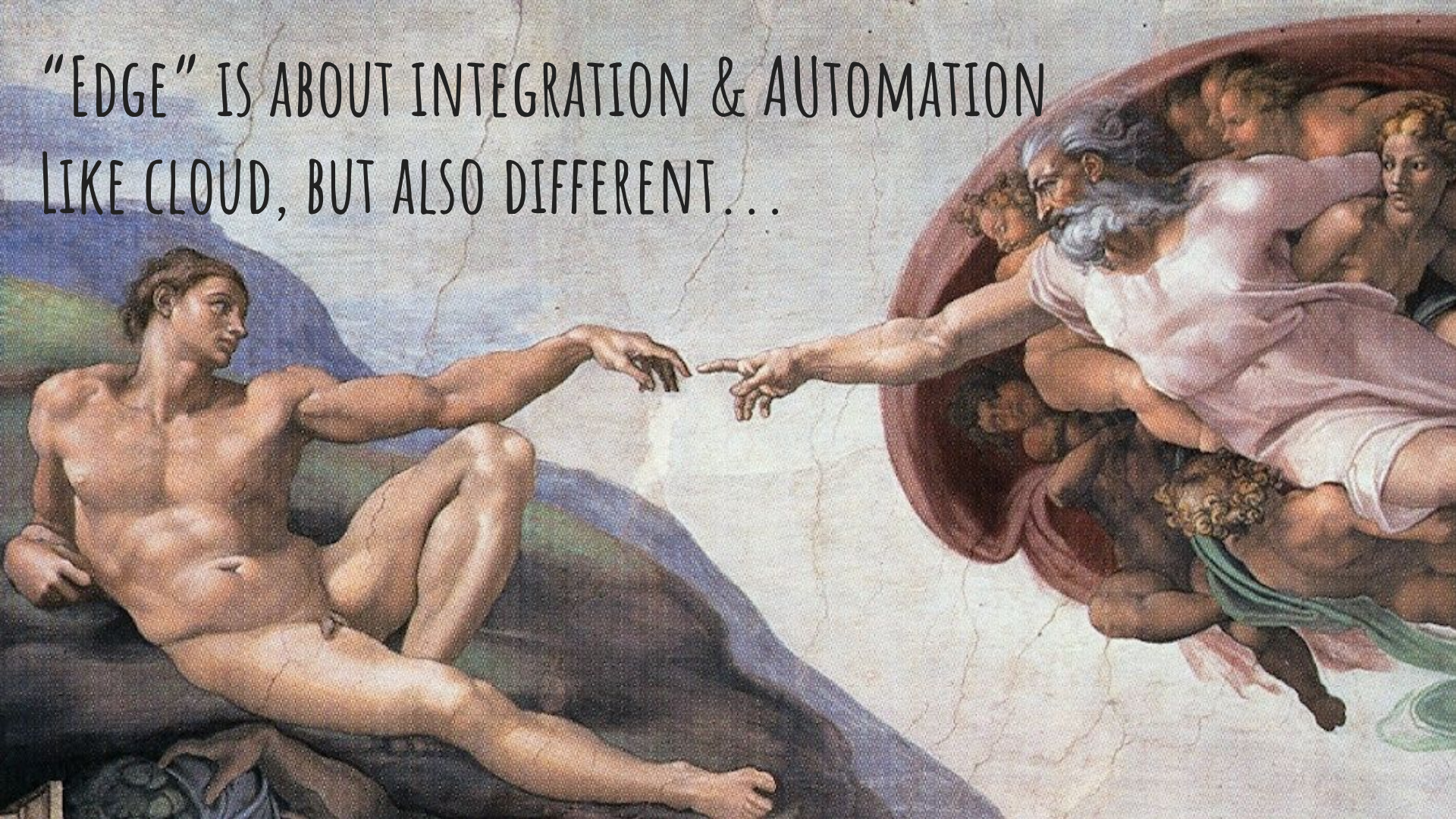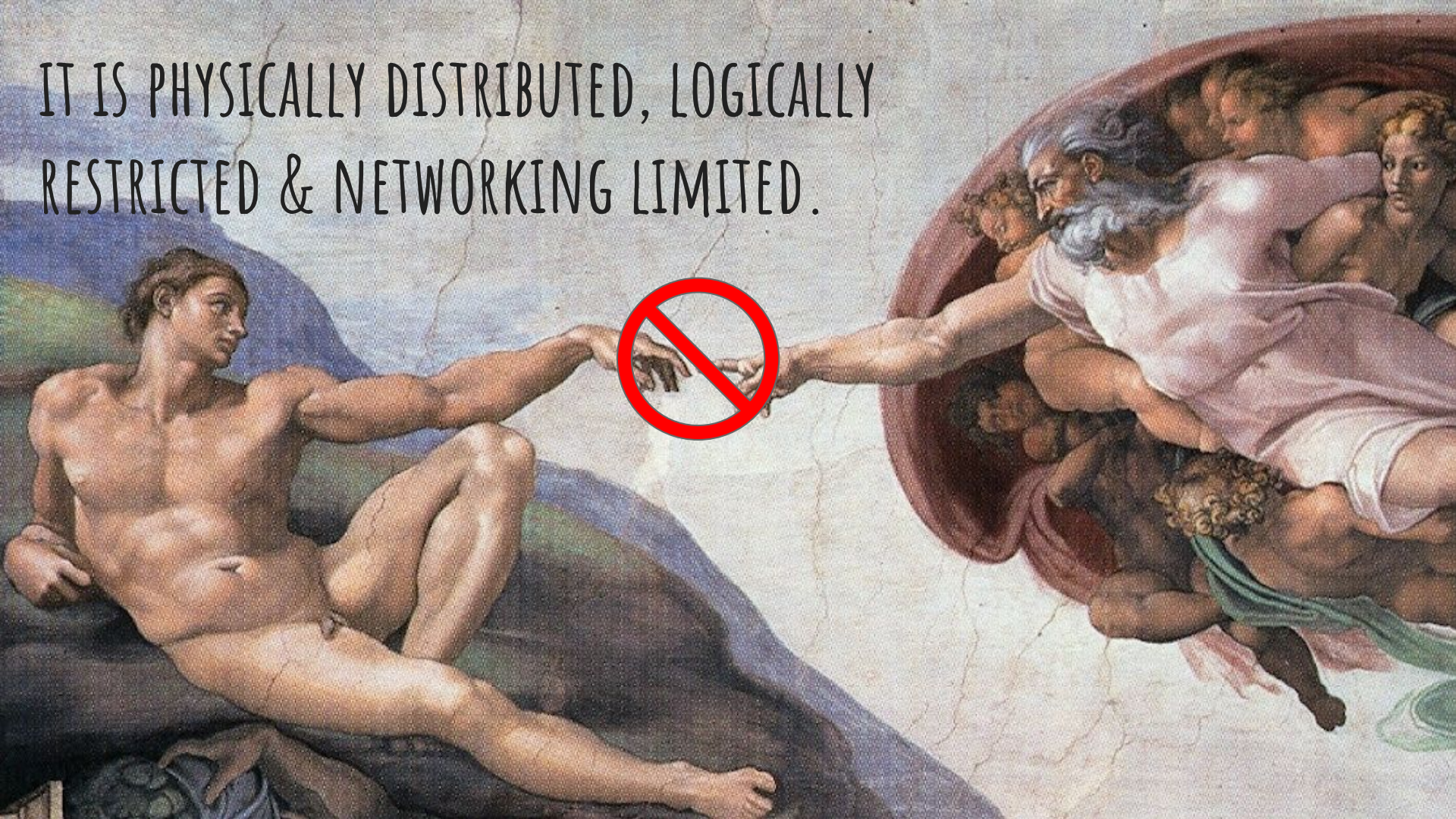# Don't touch that!

Why Edge IT is not Cloud IT

Open Infrastructure Summit, Spring 2019

@zehicle
@mthiele10

"Edge" is about integration & Automation
Like cloud, but also different...

IT IS PHYSICALLY DISTRIBUTED, LOGICALLY RESTRICTED & NETWORKING LIMITED.

Mark Thiele

@mthiele10

Director Engineering

Edge Computing Ericsson &

Chair of IDCA Technical Committee

Host of *To Infinity Paradigm & Beyond* podcast

Focused on the development of a successful edge marketplace

Rob Hirschfeld

@zehicle

CEO of RackN

Co-Founder Digital Rebar

Co-Host of *L8istSh9y* podcast

Focused on zero-touch automation of distributed bare metal infrastructure.
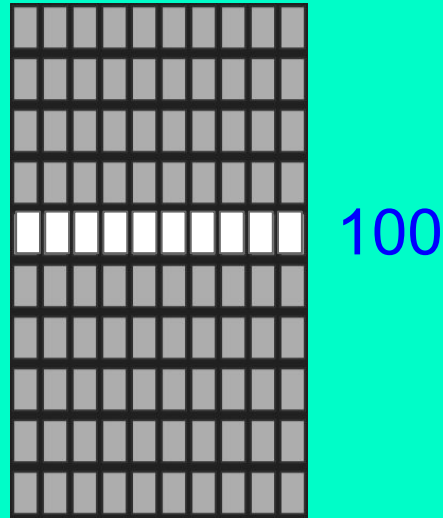
Edge = 1,000s of sites

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Current DC Ops tools are built for 10s of sites

Edge = 1,000s of sites

100

Edge = 1,000s of sites

1,000

Edge is not CLOUD! We *cannot* just "scale down" platforms nor "scale Up" Management

Edge is not CLOUD! We **MUST** just " **SCALE IN** " platforms **AND SCALE OUT** Management

@zehicle
@mthiele10

So many Questions... so few answers

- Platform required? Kubernetes, other or no standard?
- Shared and secure data storage?
- Do we have to wait for a platform?
- What are we waiting for to be build?
- Too many (10,000) Opportunities?!
- Who is the edge? Operator networks? Retail? Home?
- What are the killer apps?
- Which comes first: the app or the platform?
- And...how much time do we have before AWS takes over?

Finding solutions is *urgent*.
NO single "right" answer.

So many Questions... so few answers

- Platform required? Kubernetes, other or no standard?
- Shared and secure data storage?
- Do we have to wait for a platform?
- What are we waiting for to be build?
- Too many (10,000) Opportunities?!
- Who is the edge? Operator networks? Retail? Home?
- What are the killer apps?
- Which comes first: the app or the platform?

And...how much time do we have before AWS takes over?

ZERO: AWS IS NOT WAITING AROUND FOR A DESIGN COMMITTEE

50% of the EDGE infrastructure Is already in place

The "Edge" already exists

But it's a patchwork

- Multiple operators
- Heterogeneous environments
- No standard platforms (especially data storage)
- NOT designed for multi-tenant
- NOT designed for self-service

Today's solutions are bad choices

1. Run everything yourself from multiple co-lo
2. Limit to "edges" managed by a single provider

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We already have enough clouds
Edge is NOT a new cloud

ISN'T Edge just like Cloud?

Yes!

- API Driven & Self-Service
- Highly Automated
- Platform focused

No!

- Distributed
- Multi-vendor
- Location sensitive

Hello, Kubernetes!
Take me to your Metal

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But developers need platforms

Everything is a SaaS or PaaS now

Edge also needs to be a platform

   CI/CD takes on a whole new challenge

   Platforms need more environmental awareness

Edge applications will by virtue require new thinking

AND they should also be comfortable to cloud developers.

OPERATIONAL PATTERNS
ARE MORE IMPORTANT
THAN APIS

Solve the hardest problems first

We're not building something new!

Under-represented challenges:

- Cross-operator integration (sometimes called "hybrid")
- Zero-touch from the bare metal
- Managing data locality and transit
- Oh, and security

Ultimately, these are the non-cloud use-cases

DON'T TOUCH ANYTHING

Questions?

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