How SUSE is helping you rock the cloud

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SUSE

We adapt. You succeed.

I hope you know about
Virtual Machines.

Otherwise you should go get a beer now.

I'll wait.

Do you know about the
Public Cloud ?

If you're up to speed on the public cloud **but just don't care**, you should go get a beer now.

I'll wait a little more.

The **Public Cloud** is built on Infrastructure as a Service

Who does IaaS ?

We call them Cloud Service Providers (CSPs)

How we work with CSPs

Tier 1

The 'big boys'.

- We do the work:
    - image publishing,
    - infrastructure,
    - support.
- You get the best experience.

Tier 2

Partners, all, but with different markets/goals.

- We split the work with the CSP;
- you get the experience you're used to.

Tier 3

Everybody else:

- we provide a roadmap:
  - setup assistance,
  - certification,
  - testing/monitoring.
- You get the the host you already know.

1&1 ATOS Capgemini CBeyond CloudOne Cloudshare Cloudwatt Ennit Server EOH Mthombo Ergonet Fujitsu Integrated Solutions Network Research Belgium ServedBy the Net SAS QUAL-IT SGI Sojitz Systems Telstra Tenzing Teuto.net Tieto TIVIT Ultimum Vodacom

more in progress...

Who's are we?

Real engineers really engineering.

Robert Schweikert
https://connect.opensuse.org/pg/profile/rjschwei
http://www.linkedin.com/pub/robert-schweikert/4/46b/3b7

Marcus Schäfer
https://connect.opensuse.org/pg/profile/sax2
http://de.linkedin.com/in/schaefi

James Mason
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What we're offering:

The very best base images.

- Handcrafted configurations - minimal but usable

- SUSE Linux Enterprise Server:
  - Available on release day
  - Updated with internal & CSP-specific improvements
  - Updated for any critical bug ASAP after embargo
  - Otherwise… updated quarterly

- openSUSE:
  - Available ASAP
  - Updated based on CSP & customer feedback

Pay-per-use

- 'Basic' subscription - access to updates, Service Packs, new versions, Modules
- Updates are provided in the cloud
- CSP is your vendor - you pay only their hourly rates - no SUSE contract or subscription required
- Available through all Tier 1 CSPs

Bring Your Own Subscription

- If you already have SUSE Subscriptions, use them in the cloud
- Pay the basic Linux rate for VM size
- Use your 8x5 or 24x7 support contract
- Use SCC/NCC for updates
- Application required because of SLES 11 EULA
- Both CSP & SUSE are your vendor - you'll have to pay both *sorry*
- Available for All Tier 1 CSPs

SUSE

Priority Pay-per-use

- 24x7 support from SUSE via CSP
- 'Priority' subscription - access to updates, Service Packs, new versions, Modules
- Updates are provided in the cloud
- CSP is your vendor - you pay only their hourly rates - no SUSE contract or subscription required.
- *Available only in Azure*

Pricing examples

East US/2 prices, no-contract, as of Mar 4, 2015

- http://aws.amazon.com/ec2/pricing/
- http://azure.microsoft.com/en-us/pricing/details/virtual-machines/
- https://cloud.google.com/compute/pricing

AWS t2.micro (1 vCPU, 1GiB RAM)			AWS c4.8xlarge (36 vCPU, 60GiB RAM)		
Amazon Linux	SLES	RHEL	Amazon Linux	SLES	RHEL
$0.013/hr	$0.023/hr	$0.073/hr	$1.856/hr	$1.956/hr	$1.986/hr

Azure A0 (1 Core, 0.75GB RAM)		Azure G3 (8 cores, 112 GB RAM)	
SLES, CentOS, CoreOS, Ubuntu	SLES Priority	SLES, CentOS, CoreOS, Ubuntu	SLES Priority
$0.018/hr	$0.10/hr	$2.44/hr	$2.76/hr

Behind the curtain

Support Infrastructure

- Highly Available,
- Region local,
- Easy
- All client code is open source
  http://github.com/suse/enceladus

Project Enceladus

"A collection of code and documentation related to Public Cloud."

If we add it to an image you can run, it must be:

- open source
- open licensed
    - Enceladus projects are GPL3 & LGPL3
    - external dependencies (almost all Python) are typically BSD

https://github.com/suse/enceladus

Enceladus

Enceladus is the sixth-largest moon of Saturn.

Cassini first discovered a water-rich plume; some of the water vapor from its 100 volcanic geysers falls back as "snow".

The atmosphere of Enceladus is composed of 91% water vapor, 4% nitrogen, 3.2% carbon dioxide, and 1.7% methane.
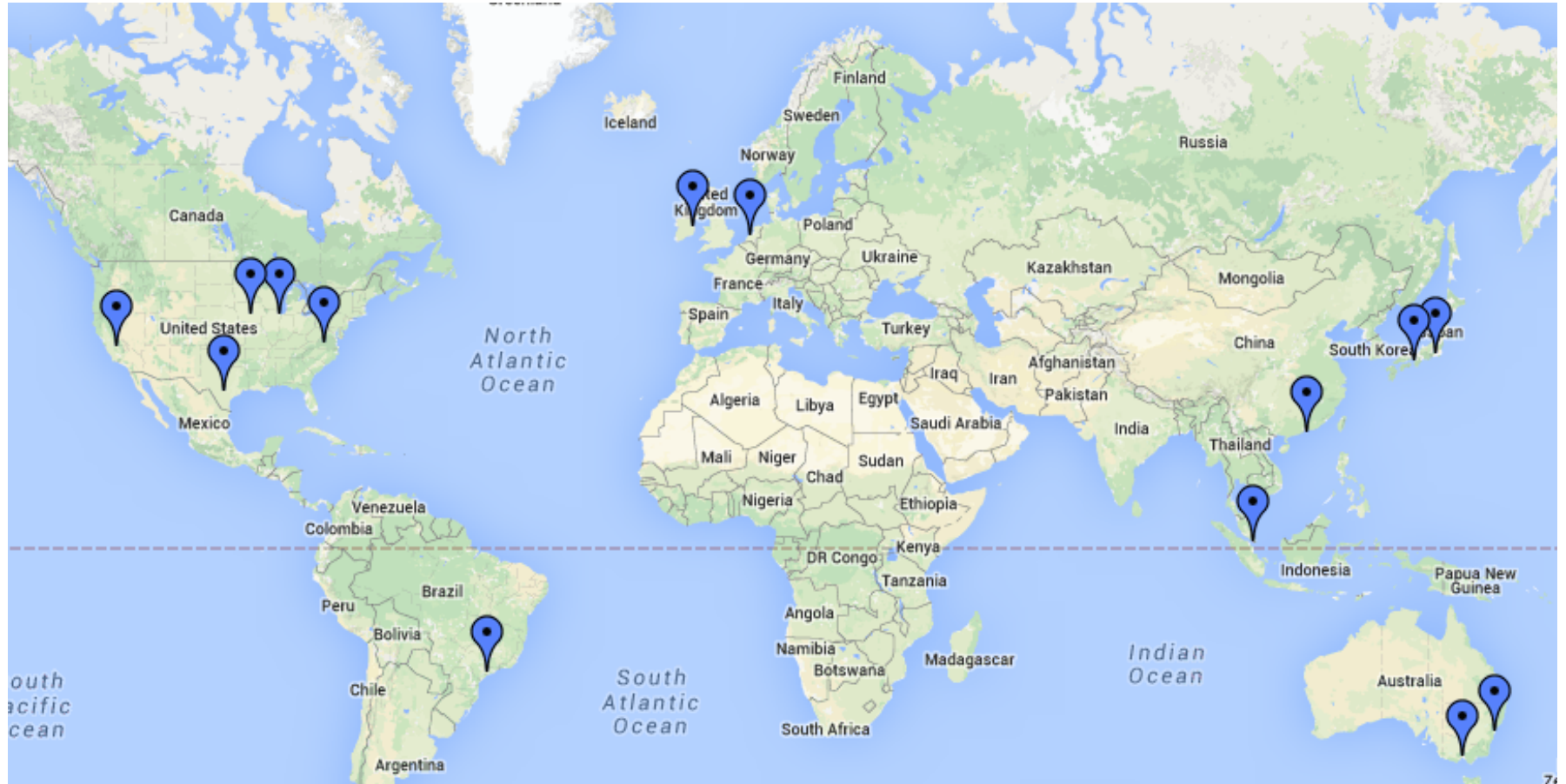
In other words, one big cloud.

Metadata tools

Client-side normalization of cloud-specific details

- small open-source client script
  https://github.com/SUSE/Enceladus/tree/master/gcemetadata
  https://github.com/SUSE/Enceladus/tree/master/azuremetadata

Support Infrastructure

Region Server

Region-aware SMT redirector

- Highly Available,
  - Many redundant geo-distributed (~4 / CSP right now)
  - Repeatable client script randomly picks server order, retries on failure until success.
- Region local,
  - Client script timeout naturally seeks local instances
- Easy
  - small open-source client script
    https://github.com/SUSE/Enceladus/tree/master/regionServiceClient
  - response is SMT access info

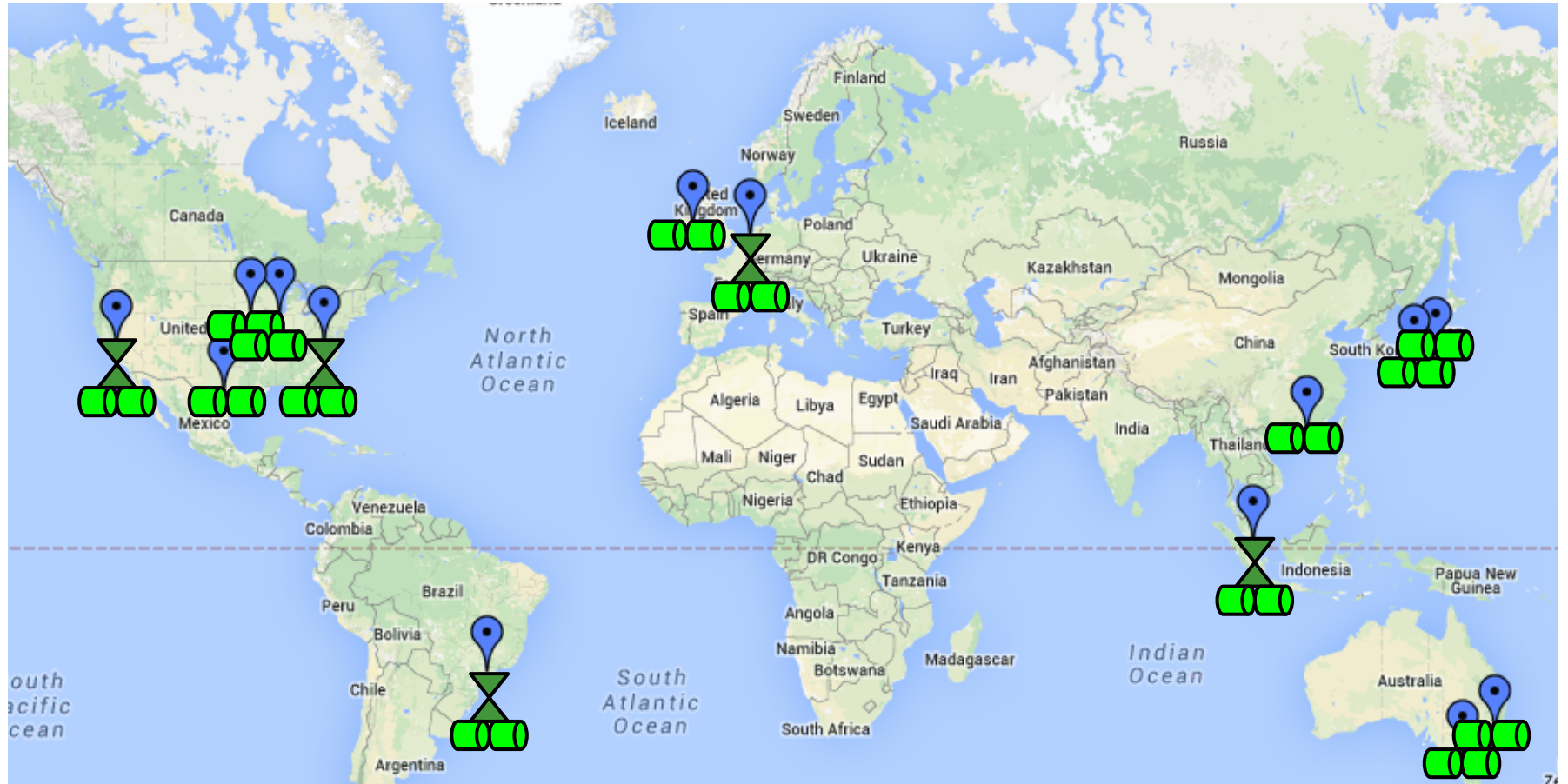# Support Infrastructure
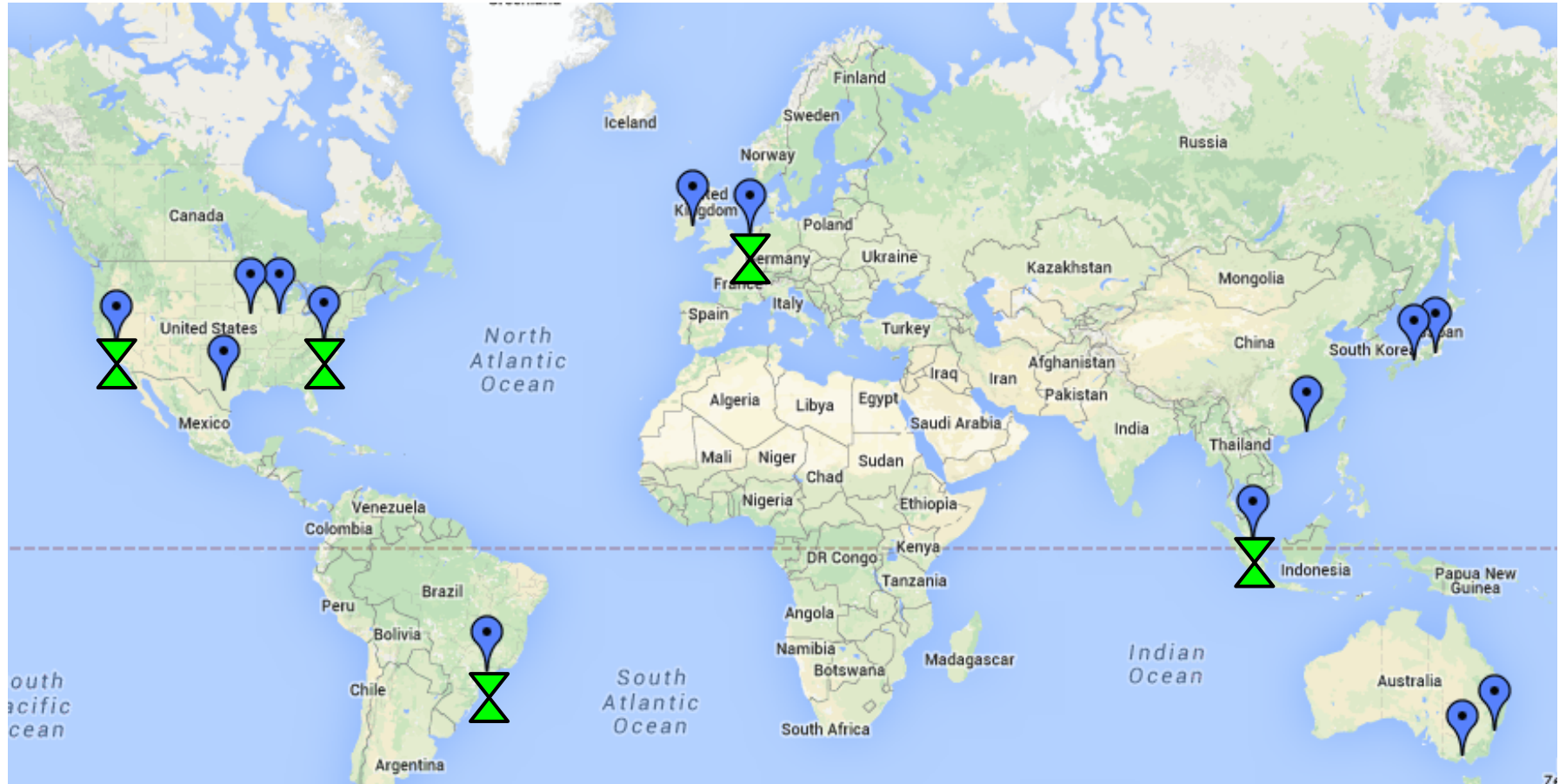
Subscription Management Tool (SMT)

Registration proxy & update mirror

- Highly Available,
  - We added registration DB syncing to enable failover
  - At least two SMT servers available to any host
- Region local,
  - At least two SMT servers in each region
- Easy
  - SLES includes registration scripts for SMT - no configuration required
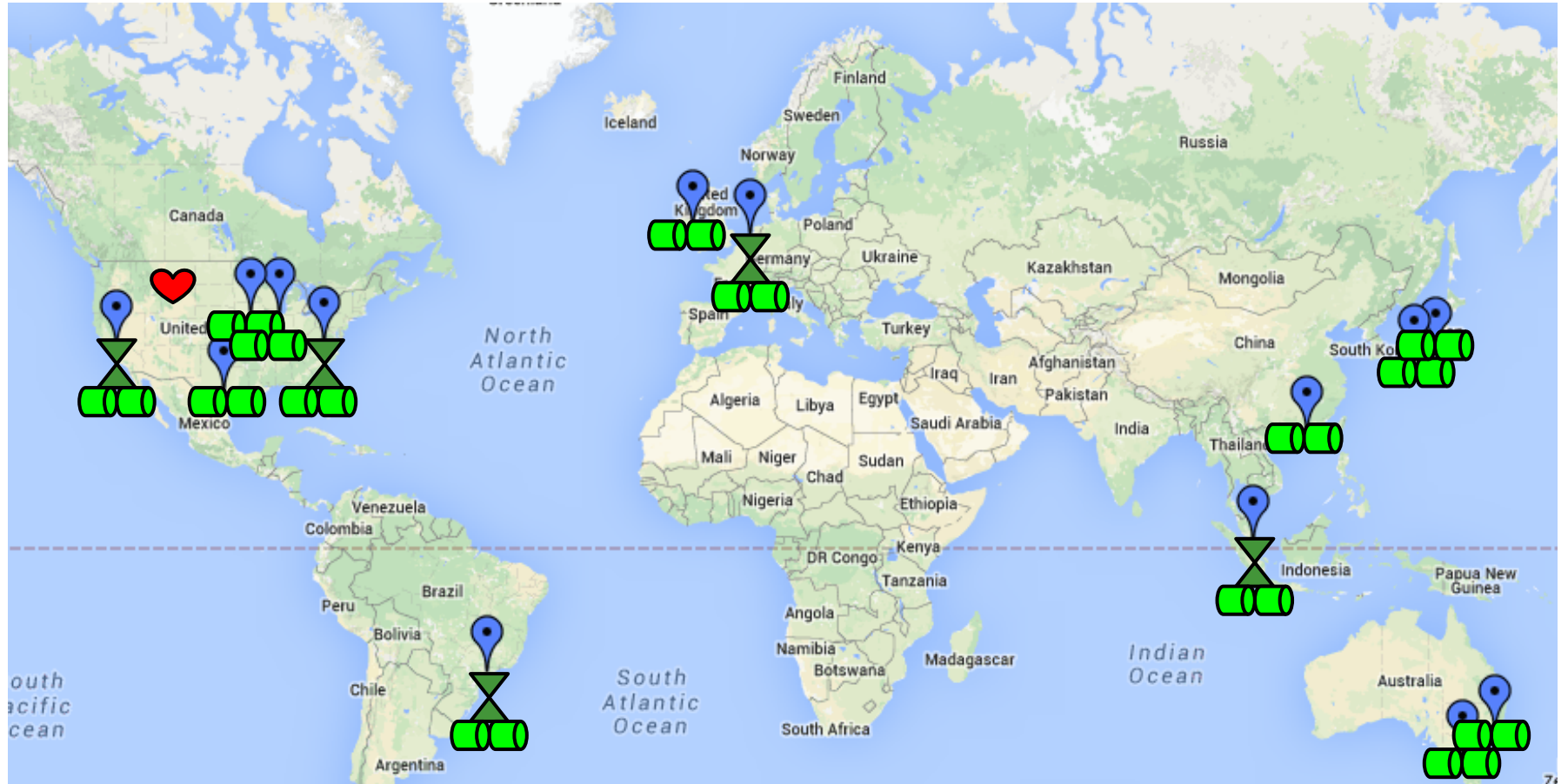
SUSE

Support Infrastructure

Infrastructure Maintenance

Monitoring & Managed Maintenance

- Nagios
- SUSE Manager (Satellite/Spacewalk/RHN)
- Dedicated SysAdmin
  http://youtu.be/ARUaRboinbc
  Hi Joel :D

Support Infrastructure

Support Infrastructure

What about **openSUSE** ?

openSUSE: all open all the time.

- Base images are built in public, using kiwi, in OBS:
  https://build.opensuse.org/project/show/Cloud:Images:openSUSE_13.2
- Updates are provided within the cloud
  - Increased performance
  - reduced cost due to reduced network ingress
  - Deployed in GCE, working on Azure & EC2
- Deploy at the base Linux rate in all CSPs
- Community-supported
- Use Evergreen releases for longer upgrade cycles

Do you have any swag ?

Getting Started

http://aws.amazon.com/free/

1st year free*

750 hours per month of Linux, including SLES, t2.micro

5GB of S3 storage per month

Getting Started

http://azure.microsoft.com/en-us/pricing/free-trial/

$200 credit over 30 days

No restrictions except the time limit.

Getting Started

https://cloud.google.com/free-trial/

$300 credit over 60 days

Limited to eight concurrent cores

Credit is used when you exceed the App Engine free quota

Now go build something awesome!

Thank you.

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