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HOW TO MANAGE A MULTI AWS ACCOUNT INFRASTRUCTURE

A short introduction: Why, how and dodging bullets

amazon web services
Munich AWS User Group

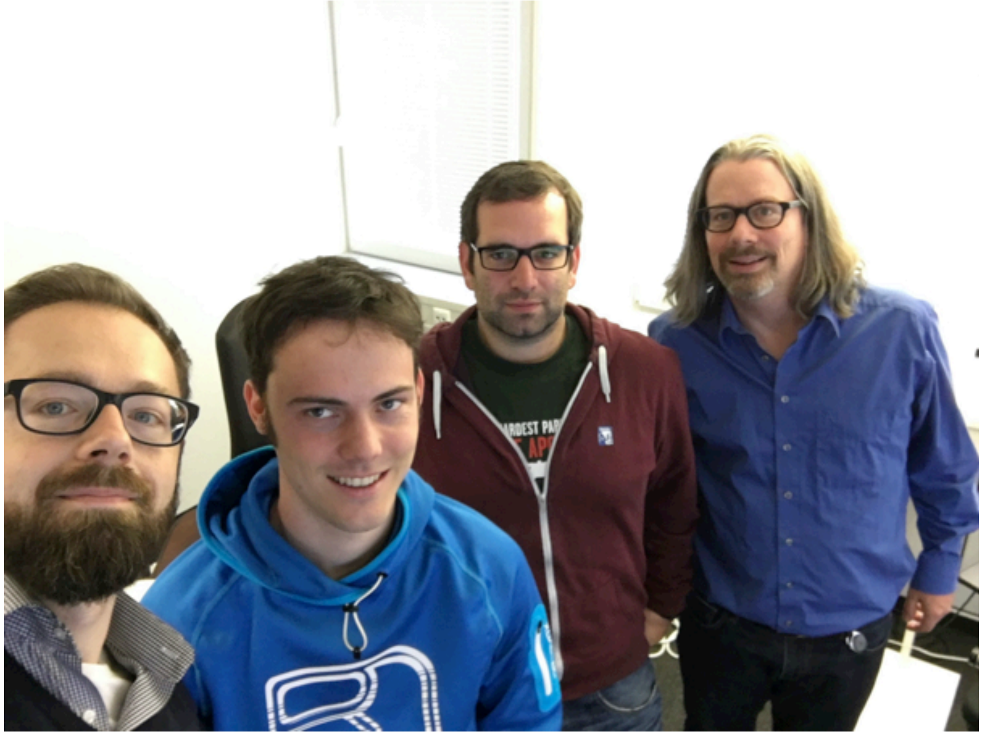
Andreas Sieferlinger
Unterföhring, 17.10.2016

INTRO

Andreas Sieferlinger

Team OPS tasks:

- base architecture
- AWS base setup
- tools and frameworks for teams
- AWS consulting for internal teams



AGENDA

WHY
would I want a multi account setup?

HOW have we implemented this?

WHICH pitfalls did we experience?

WHICH tools do we use?

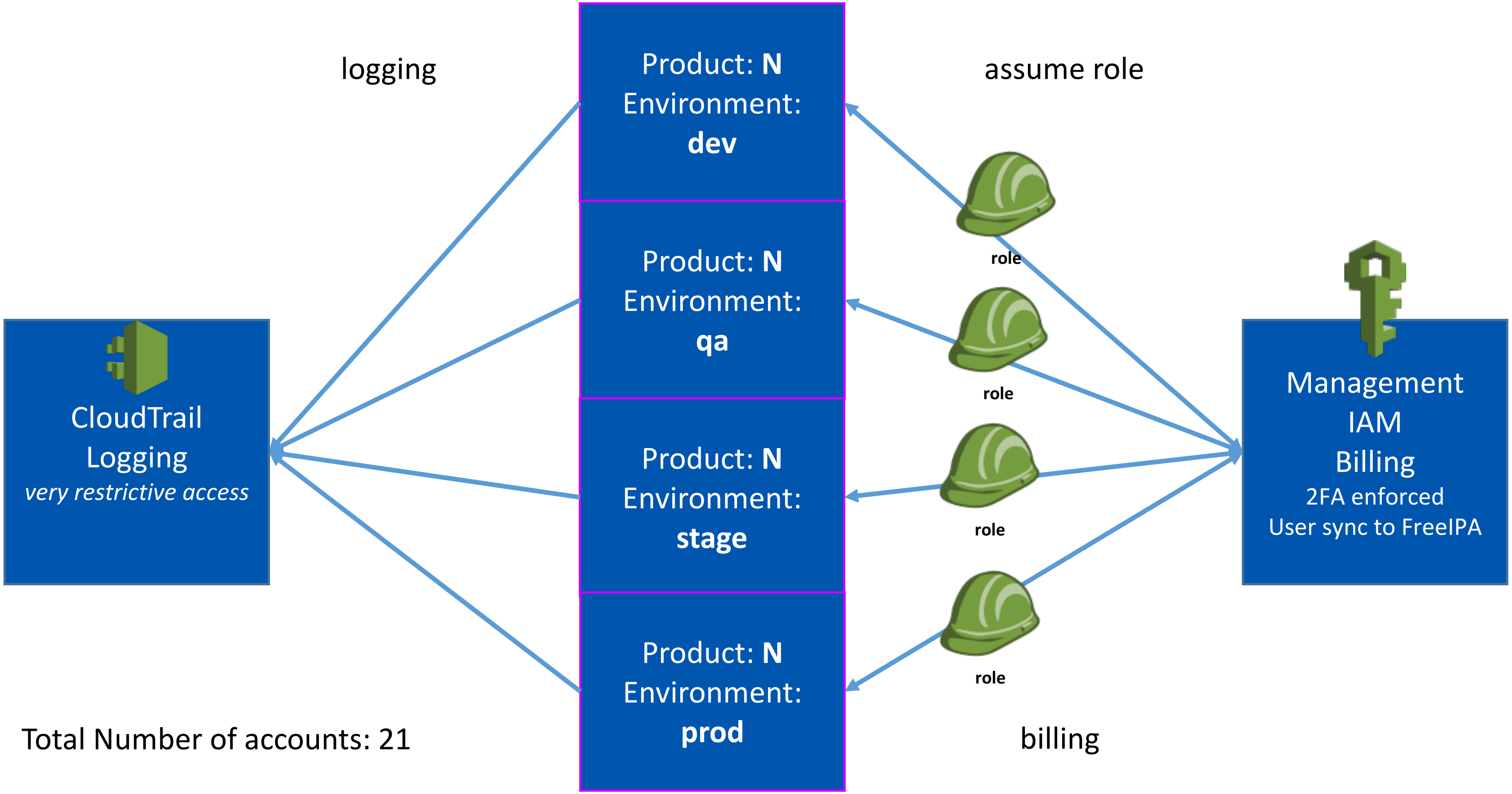
WHY?

- AWS recommendation (depending on your setup)
- separate billing
- fine grain access control / security
- mimic organization setup
- separate stages / environments
- → minimize blast radius

WHY A SINGLE ACCOUNT IS BAD

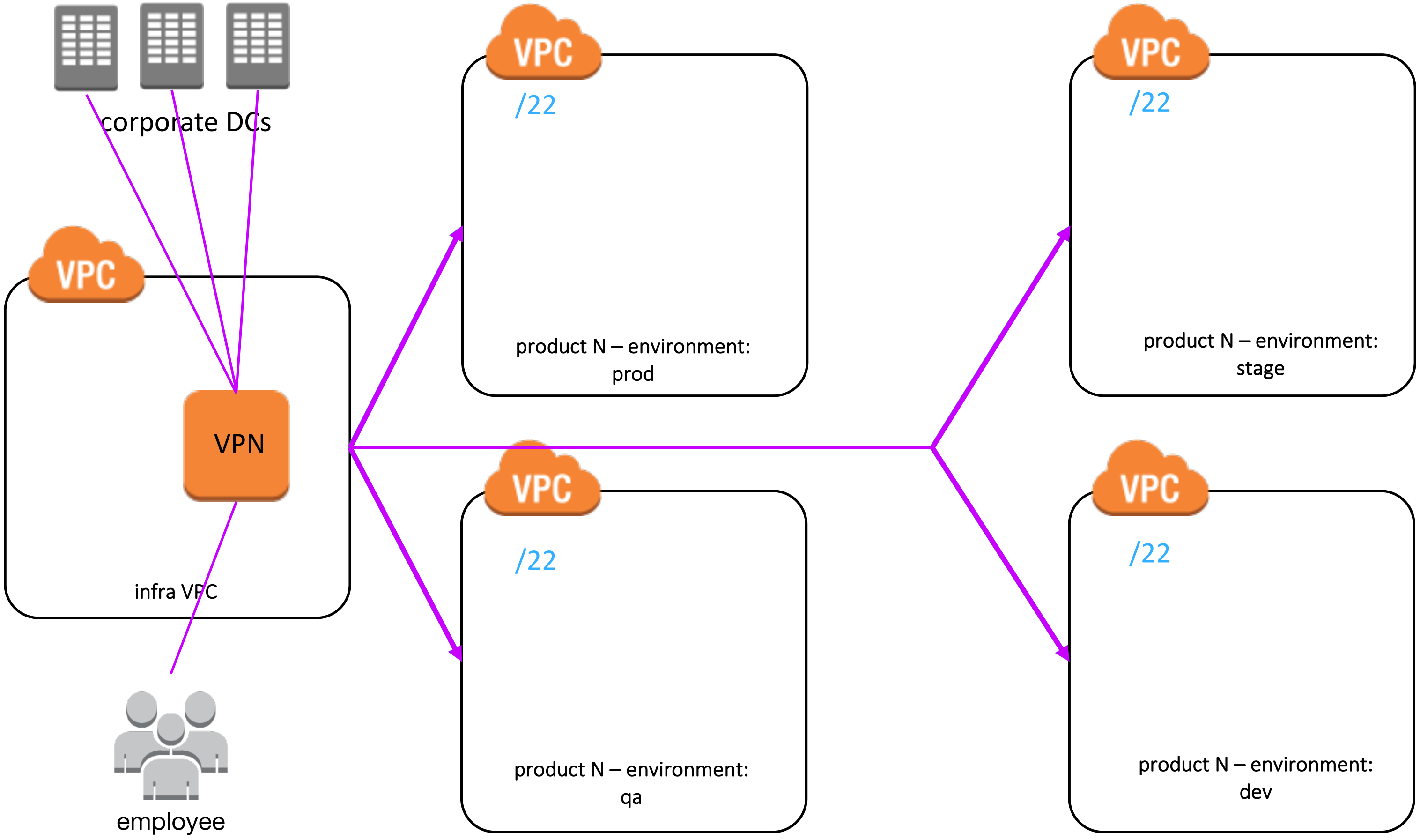
- account limits / capacity planning
- API rate limits
- complicated access control for certain resources (ec2)
- complicated deprovisioning of complete products

ACCOUNT STRUCTURE



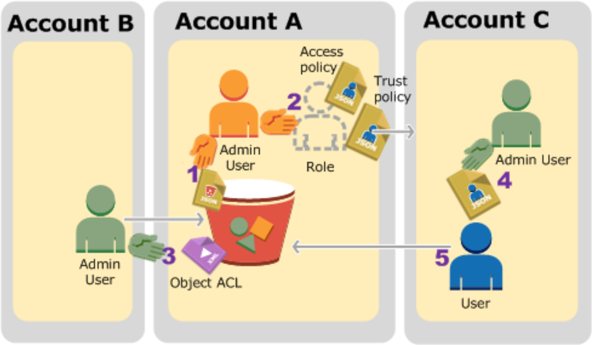
Total Number of accounts: 21

NETWORK STRUCTURE (WITHIN A SINGLE REGION)



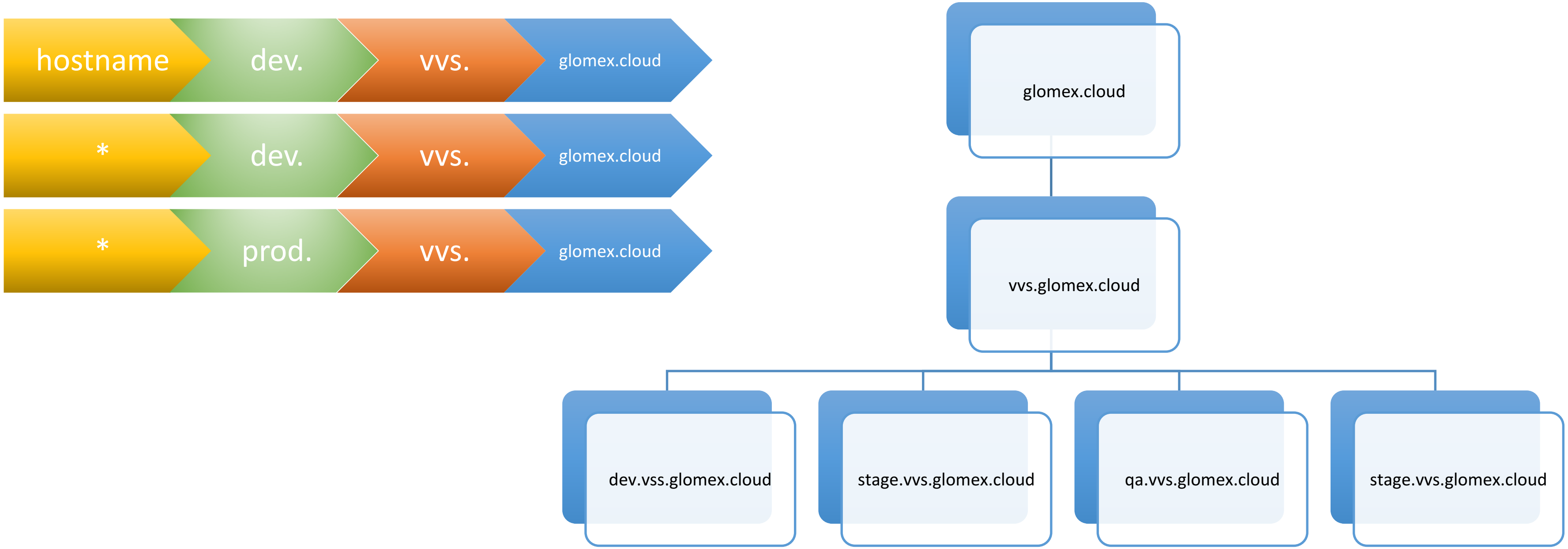
PAIN

- Tool support for cross-account access is meh…
  - kinesis agent (since 16.09.2016, IAM roles are supported!)
  - many tools do not (easily) support profiles / roles → aws-mfa
  - cli with many accounts and MFA will slow you down
- AWS support for cross account access could be better ...
  - public VPC security groups
  - complex trust relationships
  - S3 Buckets 3+ account relationships



DNS ZONE DELEGATION

- DNS Zone separation
  - cross account DNS for corporate domain too complicated -> complex DNS
  - many SSL certificates required (ACM not available for all services)



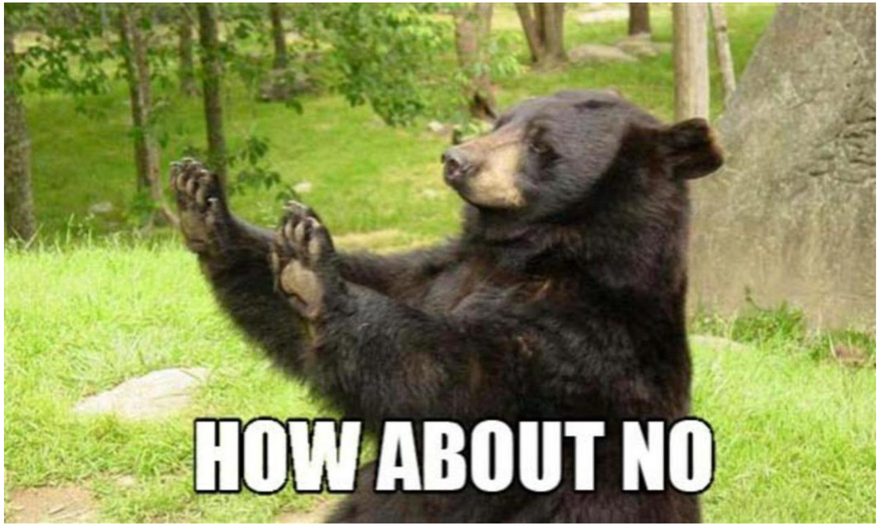
PAIN 2

- complex networking setup
  - peering / routing easily gets out of hand
  - try to keep it simple!
- No single point of view over all accounts/metrics/monitoring with AWS services/tools
  - tools like datadog and security monkey help
- Costs and effort may multiply per account (config rules, support, vpn connections, management, ssl certs).
  About $70 per account in our environment
- User support and education more demanding
- **Everything solved or found feasible workarounds!**

EDUCATE YOUR USERS

Request from developer: „We extended the instance base policy, but cannot enable it, please roll out for all“

```
{
            "Effect": "Allow",
            "Action": "autoscaling:*",
            "Resource": "*"
},
{
            "Effect": "Allow",
            "Action": "elasticloadbalancing:*",
            "Resource": "*“
}
```



Users are unaware of potential problems they create. Educate!

TOOLS

- FreeIPA is source of authentication
- FreeIPA to AWS IAM sync tool (no SAML)
- FreeIPA SSH Key User Management on instances
- aws-mfa
- Account / environment detection on instances to avoid bad things
- security monkey
- DataDog
- Base setup tool: “kiso”: manages all accounts
  - (CloudFormation / tropossphere + config + tooling)
  - Account creation automation (about 80%)
- custom application rollout tools: glomex cloud deployment tools (gcdt)
  - Kumo (cloudformation)
  - Tenkai (codedeploy)
  - Yugen (API gateway)
  - Ramuda (lambda)

LINKS

When to use AWS Multi Account Setups

https://aws.amazon.com/de/answers/account-management/aws-multi-account-security-strategy

S3 configuration for use with 3 accounts

http://docs.aws.amazon.com/AmazonS3/latest/dev/example-walkthroughs-managing-access-example4.html

aws-mfa tool

https://github.com/broamski/aws-mfa

Security Monkey

https://github.com/Netflix/security_monkey

Slides

https://speakerdeck.com/andreassieferlinger

glomex techblog

coming soon

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Q & A

Short questions regarding the presentation
More time after the talk!

Andreas Sieferlinger
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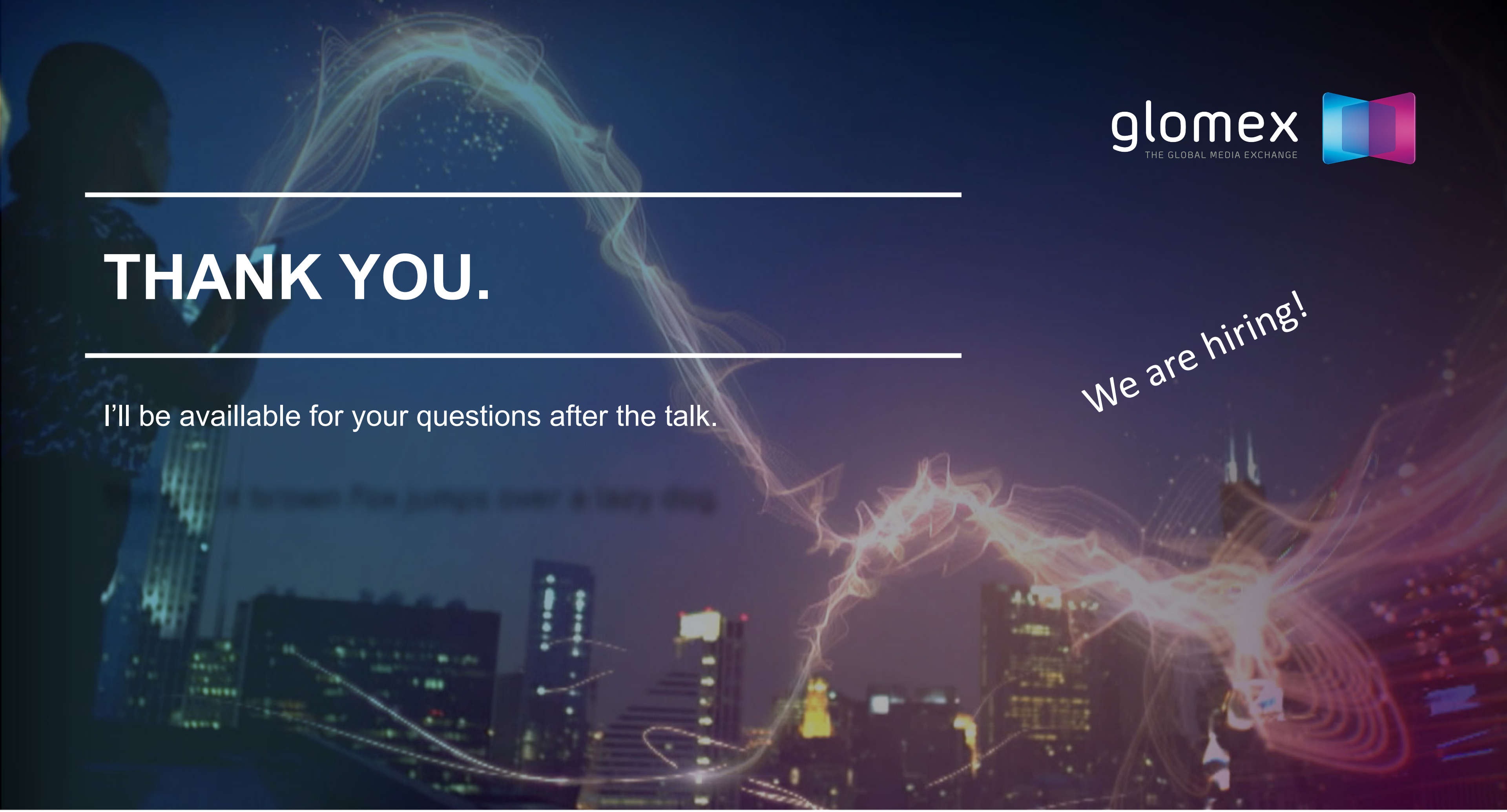

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THANK YOU.

I’ll be availlable for your questions after the talk.

We are hiring!

Andreas Sieferlinger
Unterföhring, 17.10.2016