

DEVOPS PERFORMANCE TESTING

Christian Gerdes, LIGHTS IN LINE AB

Chris Ramsby, ProMinds A/S

Anders Johansson, Scandinavian Airlines

WHAT IS DEVOPS?

A tool? A process? A Method?

<http://www.youtube.com/watch?v=eRvSH5wOZSY>

WHAT IS DEVOPS?

”DevOps is a *Cultural*
and *Professional*
movement”

Adam Jacob

- It is NOT a tool (or a thing)
- It is NOT a title, person or team
- It is NOT just ”Dev” and ”Ops”

IT TODAY



HOW IT SHOULD BE



DEVOPS BREAKDOWN

Collaboration of People

Convergence of Process

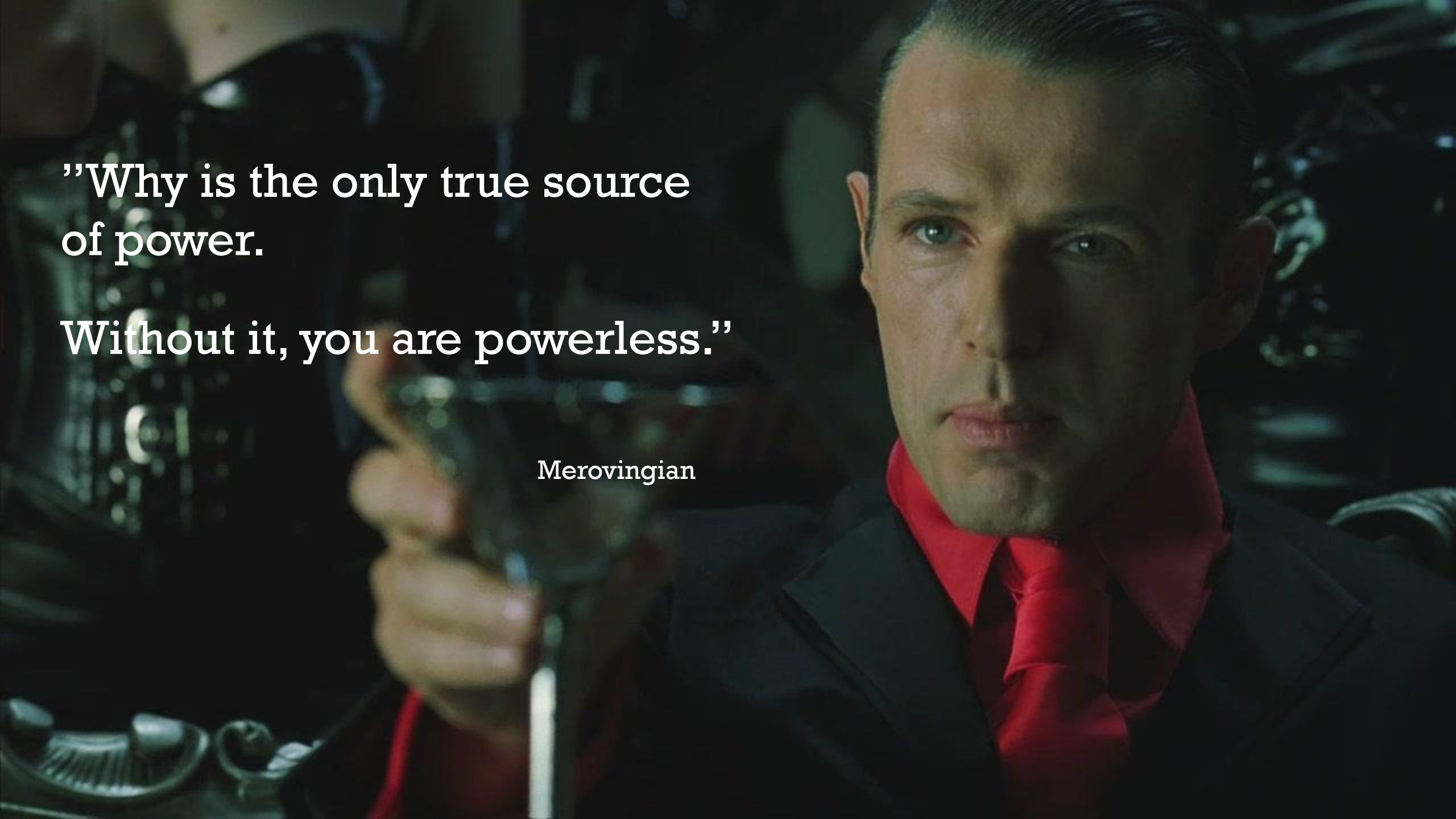
Creation & Exploitation of Tools

In that order, not the reverse!

Why

What

How

A man with short, dark hair and light-colored eyes is looking directly at the camera with a serious expression. He is wearing a dark suit jacket over a bright red shirt and a red tie. In the foreground, a hand is holding a glass, partially obscuring the view. The background is dark and out of focus, suggesting an indoor setting with some mechanical or electronic equipment.

”Why is the only true source
of power.

Without it, you are powerless.”

Merovingian

PERFORMANCE TESTING THE SAS INTERNET PLATFORM

First speaker
Chris Ramsby

”Why”

BULLETS FOR CHRIS

- Why (causing change)
 - Test purpose (baseline, peak, co-existence, leveraged performance, sla compliance monitoring)
- DevOps
 - Test env vs (Pre) Prod env
- Prep
 - Organisational
 - Technological
 - Human Factor
- Execution
 - Contextual Testing (initial, trialed, evaluation, reconfig, retest, agile!)
 - Facilitation (Shared desktops, phone conference, aligned test auditors, realtime)
 - Shared common conclusions and results, (mention snoring to be funny)
 - End effect: Everyone agrees on the results > organisational anchoring (maybe anders should make the punshline?)

PERFORMANCE TESTING THE SAS INTERNET PLATFORM

Speaker

Christian Gerdes

”How”

3 DAY EFFORT

Day 1/Prep

- Setup loadbalancing
- Setup monitoring
- Analyse User Behavior
- Modify scripts
- Create testdata

Day 2/Exec

- Split prod (create pre prod)
- Spin up test rig
- Phone conference 22-06
- Execute test iterations (agile)
- Concurrent analysis, sharing desktops, notes in chat, etc
- Recap, conclude, agree

Day 3/Report

- Collect results
- Spin down test rig
- Analyse results, create graphs based on yesterdays conclusions
- Collect reporting from all parties
- Merge into report
- Send out for approval

WHO DOES WHAT?

OPS

Measures "as if in production"

CPU

Memory

Network

IO

Servers, Firewalls, Routers, Backend

PE/QA

Generates load

Measures response times

Measures bandwidth

Measures throughput

DEV/PM

Controls the tests

Collects information

Asks the questions

Takes notes

THE MISSION

Simulate Real Production-like Load

How many users can the site handle?

USER TYPES

Main traffic

Startpages

Top 50 pages

Represents over 90% of the traffic

GA top statistics

Heavy load

Random pages

In most cases following a link or from a google search, i.e. bypass the start page, Bounce Rate in GA

Web Crawler

3 levels down

Finds 10 000 valid pages

Complex load

User login to profile

Checking points

Searching flights is external

Use case test automation

USER BEHAVIOR

Think Times

Calculated from Google Analytics

Average Time per Visit / Average
Pages per visit

60 seconds

Browser mix

Taken from Google Analytics

Verified with TCP connection stats
from Prod

Average 4/Max 6 connections per VU

New users matched from GA
Returning Visitors

Iteration time/steps

Taken from Google Analytics

Average Visit time

Average Pages per Visit

TEST RIG

Visual Studio

1 Controller + DB

15 Agents

Runs Main traffic and Heavy load

Amazon EC2

500 SEK/24hr

Additional agents spin up time: 5 min

JMeter

1 Server

Local in Sthlm

Runs test automations for user logins

MEAM APM

Runs main use case test automations
for published SAS services

Production response times

Availability

Alerts

365/24

BASELINE

Test rig baseline:

- LIL Homepage
- 25 000 VU
- 30 minutes
- Stable load, 40ms response times
- 100% Web Accelerator hits (Varnish)
- 1 Gbit (bottleneck)

EXPECTATIONS FOR THE TESTS

- Network bandwidth as bottleneck
- Correct emulation of network usage
- Infrastructure usage as before or less
- Response times better or same than before
- Response times aligned with GA
- Sessions/Connections as aspected

TEST RIG CHALLENGES

- Rampup time limits number of tests
 - Think(time) before do?
- Web browser initial cache is empty
 - Shared cache between VU's?
 - How old is the cache?
- Network Throttling
 - Strange sinus waves...
 - More agents...

PERFORMANCE TESTING THE SAS INTERNET PLATFORM

Speaker

Anders Johansson

"Punshline"

BIZ PERSPECTIVE

- The SAS Portal
- Benefits of this approach
 - More realistic results by testing in prod
 - Quick resolutions and results when Management, Ops, Dev and PE/QA are doing the tests together
 - Awareness and understanding for all parties
 - Organizational anchoring
 - Low price, huge return on investment
 - Fun!

**WHAT IS THE MOST POWERFULL
DEVOPS TOOL OUT THERE?**

Any ideas?

