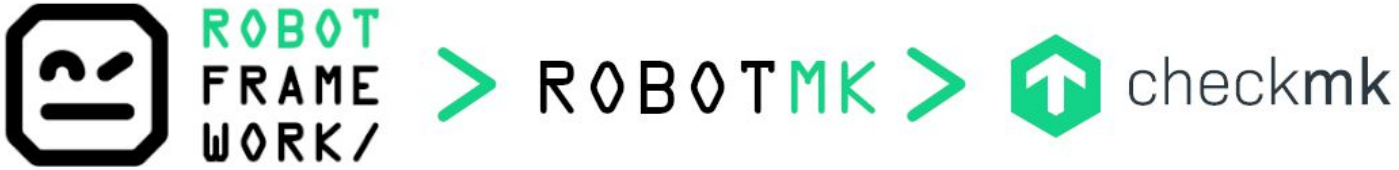
RobotMK

Extend **Checkmk** with **Robot Framework E2E tests**

Why infrastructure monitoring is not enough



SIMON MEGGLE

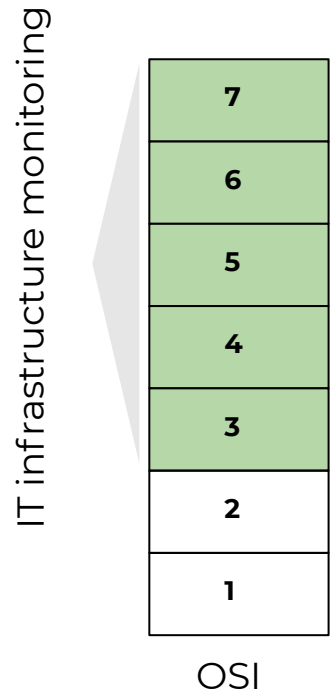
FOSDEM'21

$me

- Simon Meggle, Germany
- independent IT consultant
- ~20 years experience
  - Configuration management (Ansible)
  - Open Source Monitoring (Checkmk)
  - Test automation (Robot Framework)
  - Python development

ELABIT
IT UNDER CONTROL.

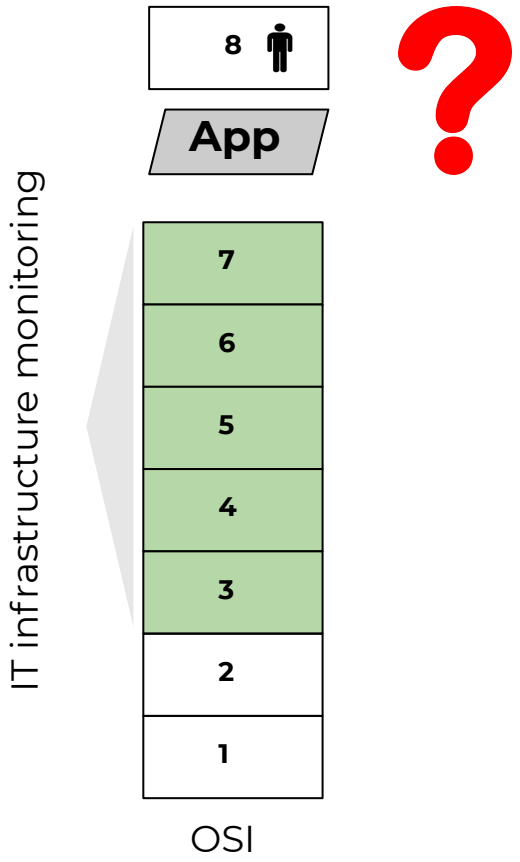
Checkmk

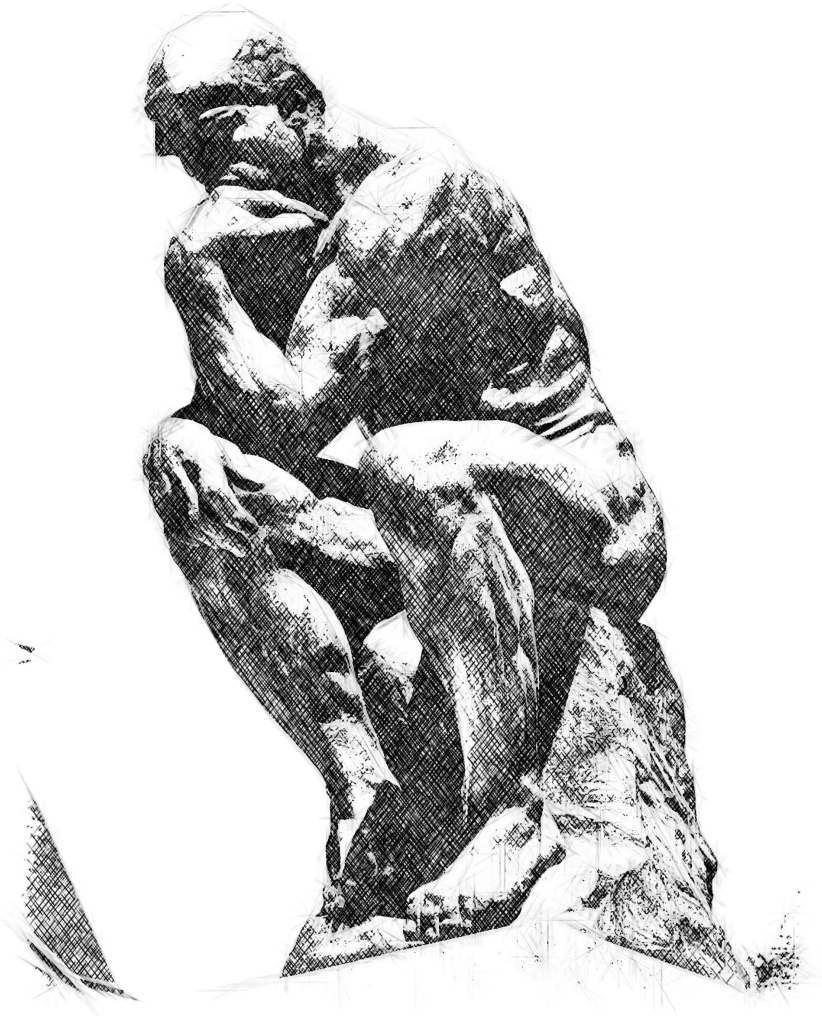


- 2008: Written by Mathias Kettner (GER) as a **Nagios addon**
- Evolved as an own, full-featured IT monitoring system
- All-in-one solution for monitoring servers, networks, databases, cloud services, containers, storage, IoT, ...
- “Batteries included”: **> 1800 check plugins**
- Two editions (https://checkmk.de/editions.html):
  - **Raw** Edition (Open Source)
  - **Enterprise Edition** (additional features, support)

Checkmk

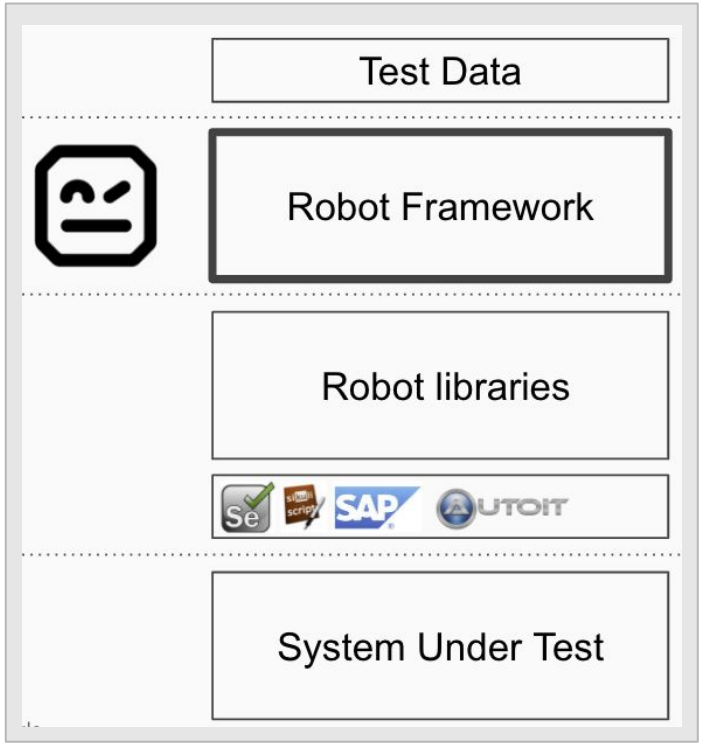
checkmk





...HYPOTHESIS.

Robot Framework

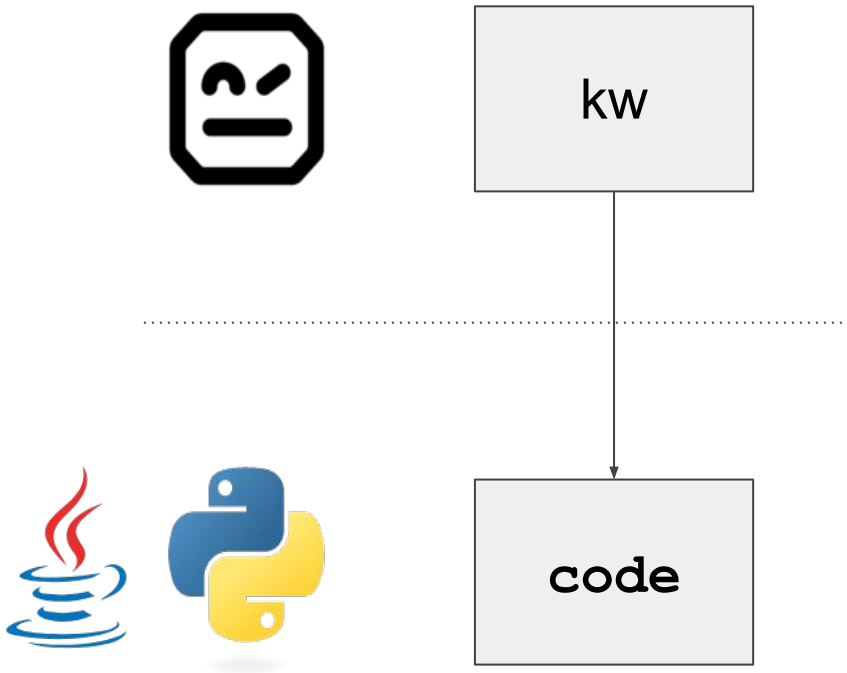


- Generic test automation framework
- Written 2005 by **Pekka Klärck** at Nokia Siemens Networks (NSN)
- Open Source since 2008 (Apache License)
- 100% Python
- **keyword driven approach**
- **library concept (Selenium, Playwright, Sikuli, REST, SOAP, Sockets...) => swiss army knife**

> *"The decision for **Robot Framework** is not a decision for a **company**. It's the decision for the "**lingua franca of test automation**".*

Robot Framework

Keywords



Keywords

- abstract source code
- can be used like functions (parameters & return values)
- case insensitive
- allow Spaces ...

Robot Framework

Why Robot Framework?

“There is Selenium for Python…?”

```
from selenium import webdriver

driver = webdriver.Chrome( r'C:\Users\drivers\chromedriver.exe' )
driver.maximize_window()
driver.get("http://www.seleniumeasy.com/test/basic-first-form-demo.html" )
assert "Selenium Easy Demo - Simple Form to Automate using Selenium"  in driver.title

eleUserMessage = driver.find_element_by_id( "user-message")
eleUserMessage.clear()
eleUserMessage.send_keys( "Test Python")

eleShowMsgBtn=driver.find_element_by_css_selector( '#get-input > .btn')
eleShowMsgBtn.click()

eleYourMsg=driver.find_element by id( "display")
assert "Test Python" in eleYourMsg.text
driver.close()
```

Robot Framework

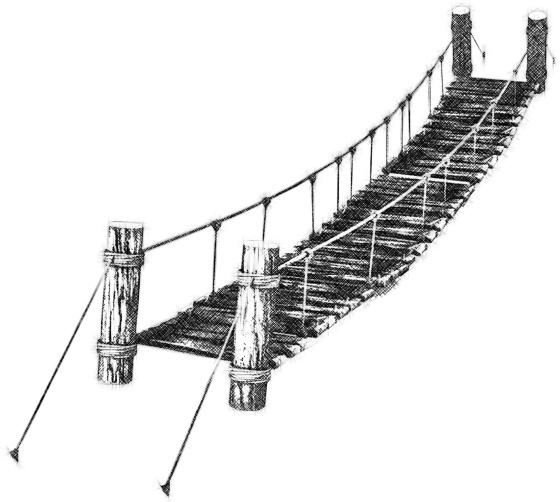
Why Robot Framework?

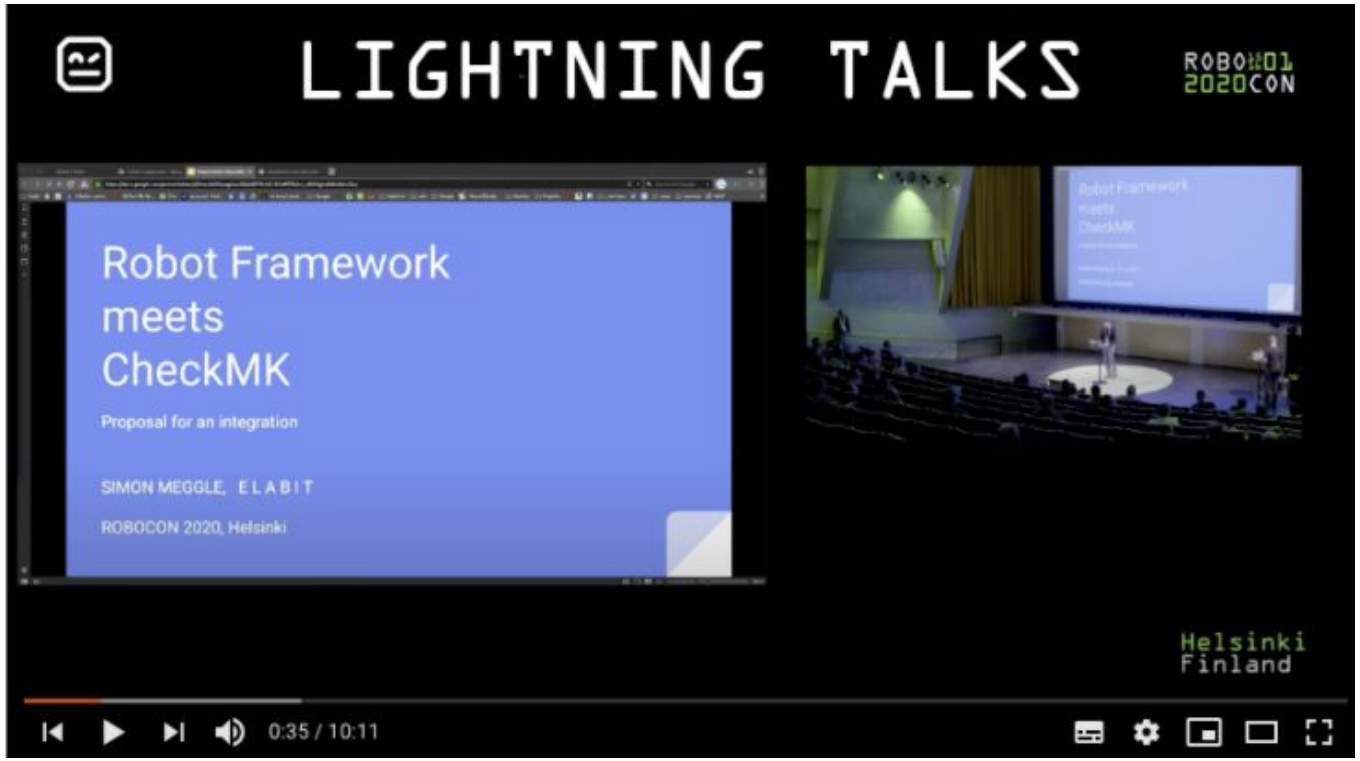
Robot for Selenium for Python
Robot for Playwright for Python
Robot for X/Y/Z for Python!

```
*** Settings ***
Library           SeleniumLibrary
Suite Teardown    Close All Browsers

*** Variables ***
${URL} =            http://www.seleniumeasy.com/test/basic-first-form-demo.html

*** Test Cases ***
Selenium Demo
    Open Browser                ${URL}   chrome  service_log_path=null
    Maximize Browser Window
    Wait Until Element Is Visible  at-cv-lightbox-close  timeout=10  error=None
    Click Element               at-cv-lightbox-close
    Page Should Contain         Selenium Easy Demo - Simple Form to Automate using Selenium
    Input Text                  user-message  Test Robot
    Click Button                css:#get-input > .btn
    Wait Until Element Contains  display  Test Robot  timeout=3  error="Testtext konnte nicht gefunden werden!"
```

Robotmk

- MKP extension for Checkmk to integrate Robot Framework
- first line of code: November 2019
- Robocon Helsinki (FI), January 2020
- current state: v0.1.9





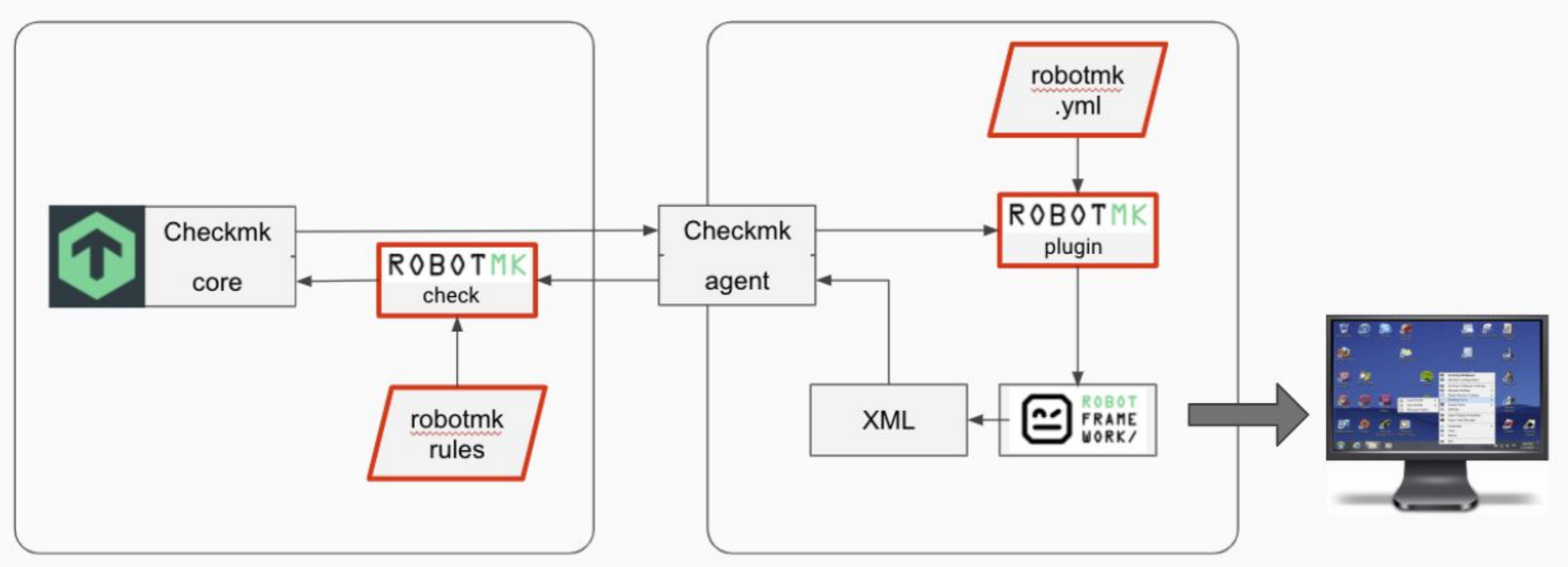
Benefits of E2E-Monitoring with Checkmk

- Monitor execution runtimes of test suites and/or sub-steps (keywords)
- Create SLA reports about the availability of applications/3rd party services
- Get alerts about application problems, execution runtimes and test failures (Email, SMS, Slack, Mattermost, ...)
- Record execution runtimes in time series databases
- optimal supplement for IT infrastructure monitoring

Robotmk

> ROBOTMK >

Architecture



Live Demo