

# OPERANDO & YAKSHA

## Private Data Management for Users & Systems

Constantinos Patsakis

Department of Informatics,  
University of Piraeus, Greece



**eCrime2017.EU**  
Symposium on Electronic Crime Research

**APWG.EU**

Unifying the Global Response to Cybercrime

**eCrime.EU 2017 Porto**



**eCrime2017.EU**  
Symposium on Electronic Crime Research

**APWG.EU**

Unifying the Global Response to Cybercrime

**eCrime.EU 2017 Porto**

# Goals of this talk

- Discuss challenges and solutions in Security and Privacy as seen through two H2020 projects.



**eCrime2017.EU**  
Symposium on Electronic Crime Research

**APWG.EU**

Unifying the Global Response to Cybercrime

**eCrime.EU 2017 Porto**

# O{P}ERANDO

online privacy enforcement, rights assurance & optimization



**eCrime 2017.EU**  
Symposium on Electronic Crime Research

**APWG.EU**

Unifying the Global Response to Cybercrime

**eCrime.EU 2017 Porto**

# OPERANDO

- Funded under the Horizon 2020 Programme (H2020), as part of the DS-01-2014 - Privacy call (GA no. 653704)
- We implement and validate an innovative privacy enforcement framework that will enable: ***Privacy as a Service***
- The project is Open Source available in Github



# Consortium



**eCrime 2017.EU**  
Symposium on Electronic Crime Research

**APWG.EU**

**eCrime.EU 2017 Porto**


Unifying the Global Response to Cybercrime

# GDPR

- On 27 April 2016, the EU adopted new rules for the protection of personal data, via the ***General Data Protection Regulation (GDPR)***. The GDPR will become applicable on ***25 May 2018***, and its impact will be felt in many areas in the next few years that service providers will have to integrate it in their services.
- Will everyone do it?
- What happens till then?
- What happens with non-conforming services?



# Main concept of the project

- **Ground truth:** Users do **not** have control of their private data.
- They consume numerous services, sharing their private data with many entities many of which they do not know.
- Users do not have control of **who** accesses their private data, **when**, **which** and **why**.
- Users are not able to revoke their **consent**.
- Common users do not have the knowledge and means to enforce their privacy preferences.
-  Note that the project was submitted before **GDPR**.

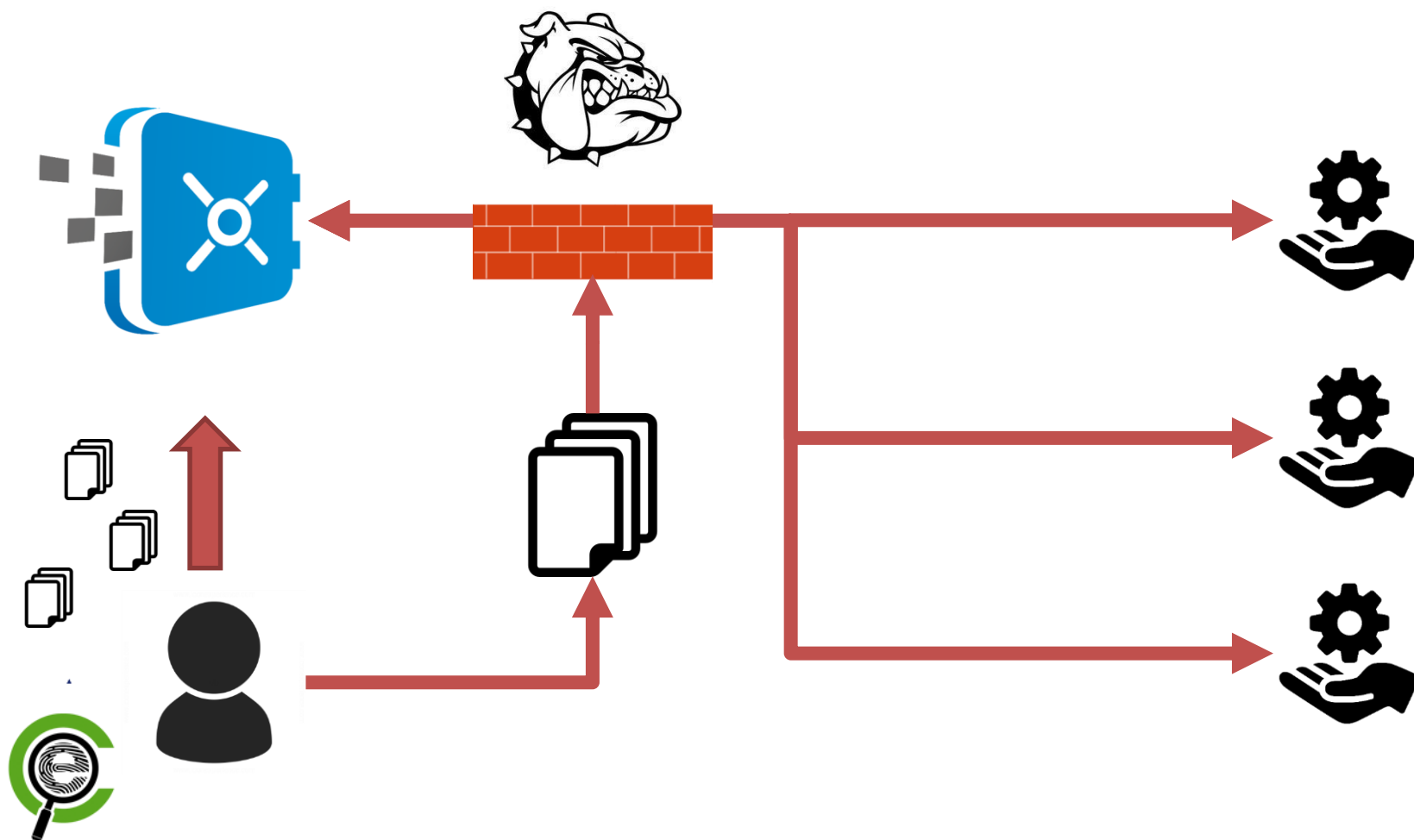


# The OPERANDO approach

- Deploy solutions that fit G2C & B2C scenarios.
- Determine information leakages



# Basic concept of OPERANDO G2C



# OPERANDO B2C

- OPERANDO has a dedicated web page for B2C: <https://plusprivacy.com/>
- We have created **open source** software (available on Github: <https://github.com/OPERANDOH2020/PlusPrivacy>) to tackle with specific privacy issues
- We provide a Chrome extension, an Android and iOS app.
- **Goals:**
  - Privacy in Social Networks
  - Extensions and app management
  - Hide email identity
  - Ad blocking
  - Privacy-for-benefit deals



# Research

- Android security
  - 2 CVEs
  - Overlays without any permissions
  - Arbitrary command execution
  - Unauthorised access to microphone, camera, location



The list goes on...



**eCrime 2017.EU**  
Symposium on Electronic Crime Research

**APWG.EU**

Unifying the Global Response to Cybercrime

**eCrime.EU 2017 Porto**

# YAKSHA

- Will be funded ICT-39-2016-2017  
(International partnership building in low and middle income countries)
- Will start on January
- Score 14.5/15



# Consortium

European Partners	
Sociedade Portuguesa de Inovação	Portugal
University of Piraeus	Greece
StudioAG	Italy
INNO TSD	France
MOTIVIAN EOOD	Bulgaria
OTE Research	Greece
VTT Technical Research Centre of Finland	Finland
ATOS	Spain
Southeast Asian Partners	
Vietnam Software and IT Services Association	Vietnam
Cybersecurity Malaysia	Malaysia
National Science and Technology Development Agency	Thailand
ASEAN Chief Information Officer Association	Thailand
Digital Identity Solutions Vietnam	Vietnam



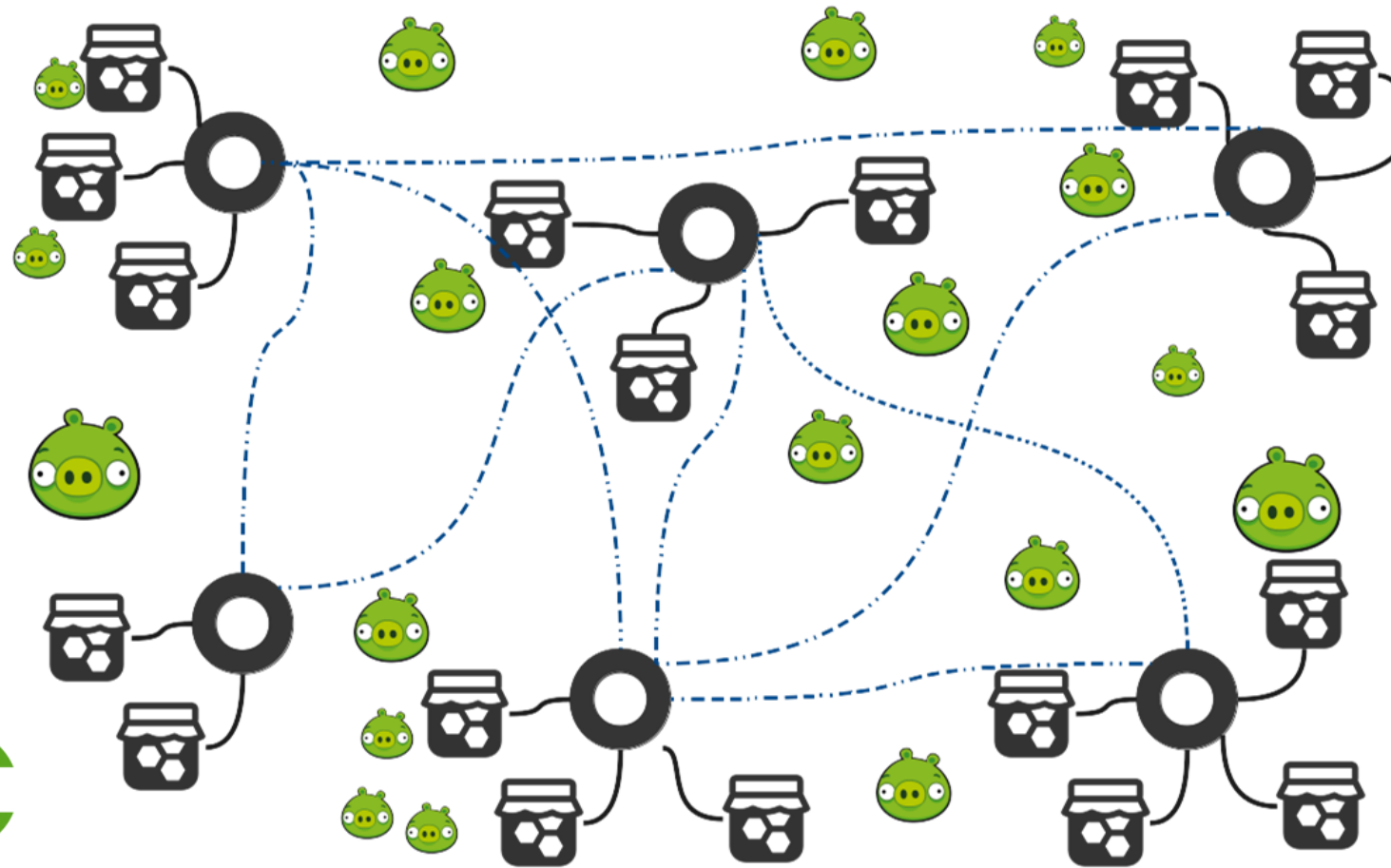
# Concept

- YAKSHA is a **distributed** system which allows the **automated** deployment of honeypots, *data collection* and *analysis* as well as *reporting* and *information sharing* with *affiliated* YAKSHA installations

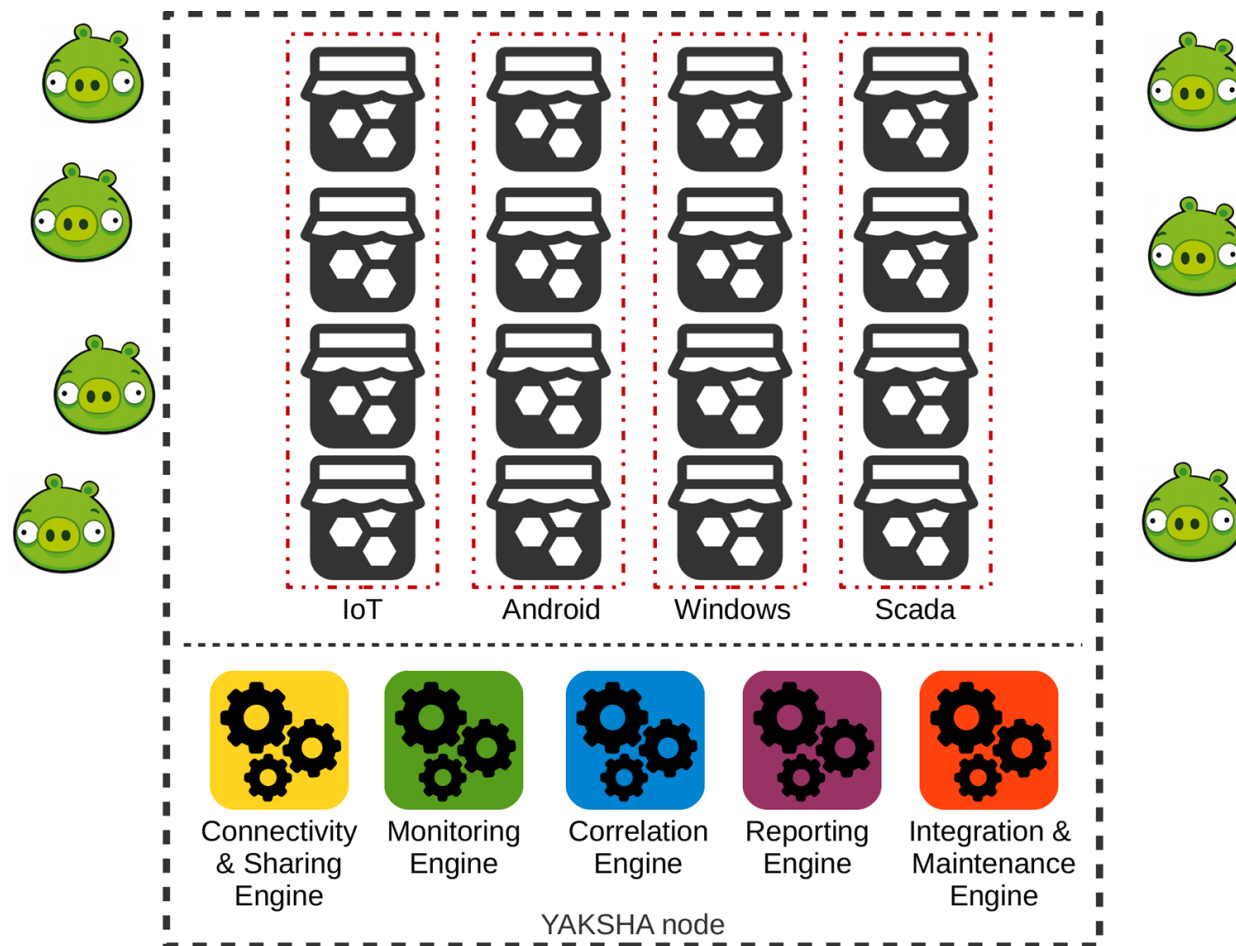




# YAKSHA architecture



# Architecture of a YAKSHA node



# EOF

## Questions?

[kpatsak@unipi.gr](mailto:kpatsak@unipi.gr)

[www.cs.unipi.gr/kpatsak](http://www.cs.unipi.gr/kpatsak)



**eCrime 2017.EU**  
Symposium on Electronic Crime Research

**APWG.EU**

Unifying the Global Response to Cybercrime

**eCrime.EU 2017 Porto**