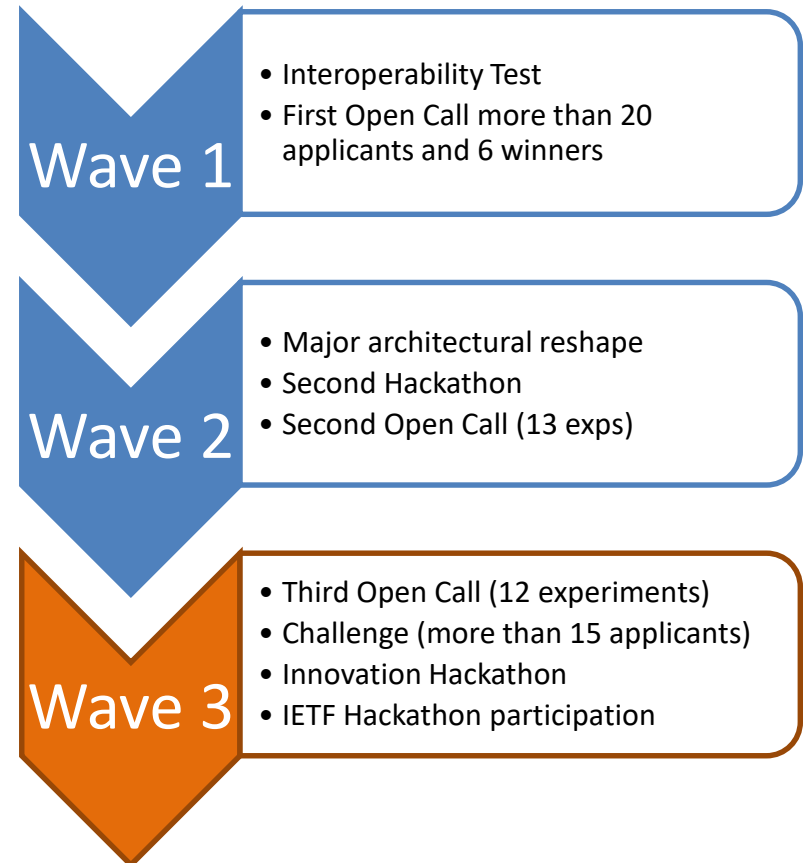


A Federated NFV/SDN infrastructure for 5G and NGI

Roberto Minerva, EIT Digital, Italy

SoftFIRE in a Nutshell

- EIT Digital
 - ADS
 - Deutsche Telekom
 - Fraunhofer FOKUS
 - Ericsson
 - Reply
 - Technical University of Berlin
 - University of Surrey
-
- 27 months
 - 4 M budget
 - Half of that for OPEN CALLS and external participation



Next Events

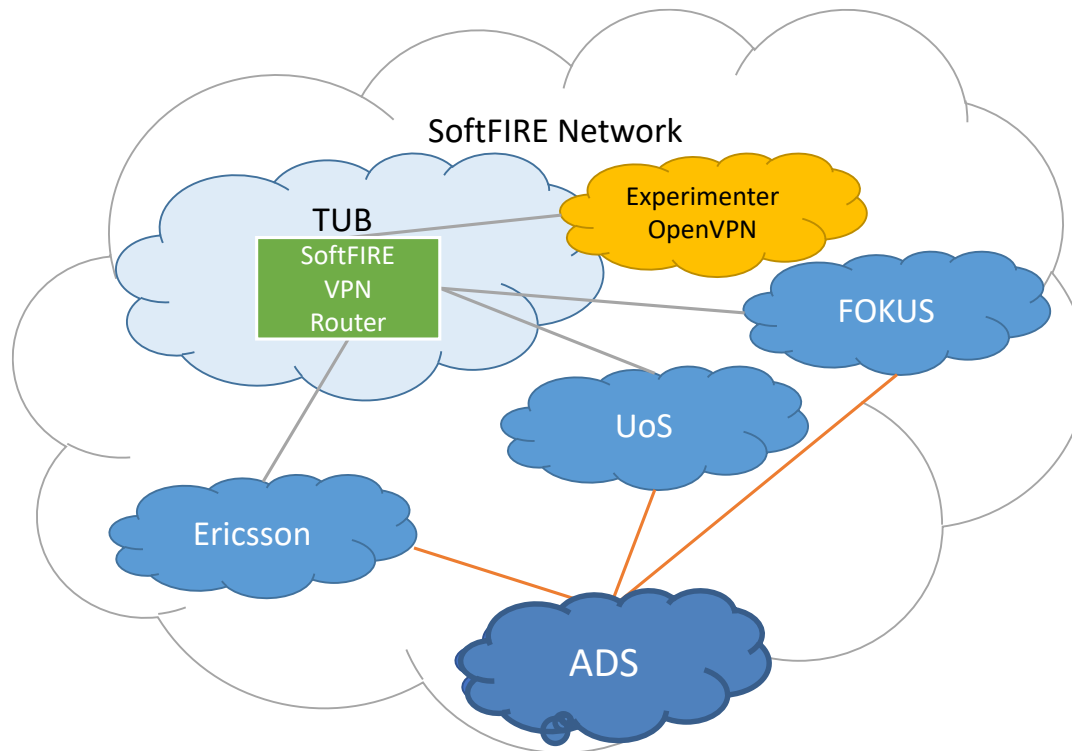
- Challenge at FEC3 in conjunction with FED4FIRE project in Paris March 15th
- IETF Hackathon in London 17-18 March
- Innovation Hackathon to be held in Rome 18-19 April in conjunction with Ericsson

Main Focus of Innovation

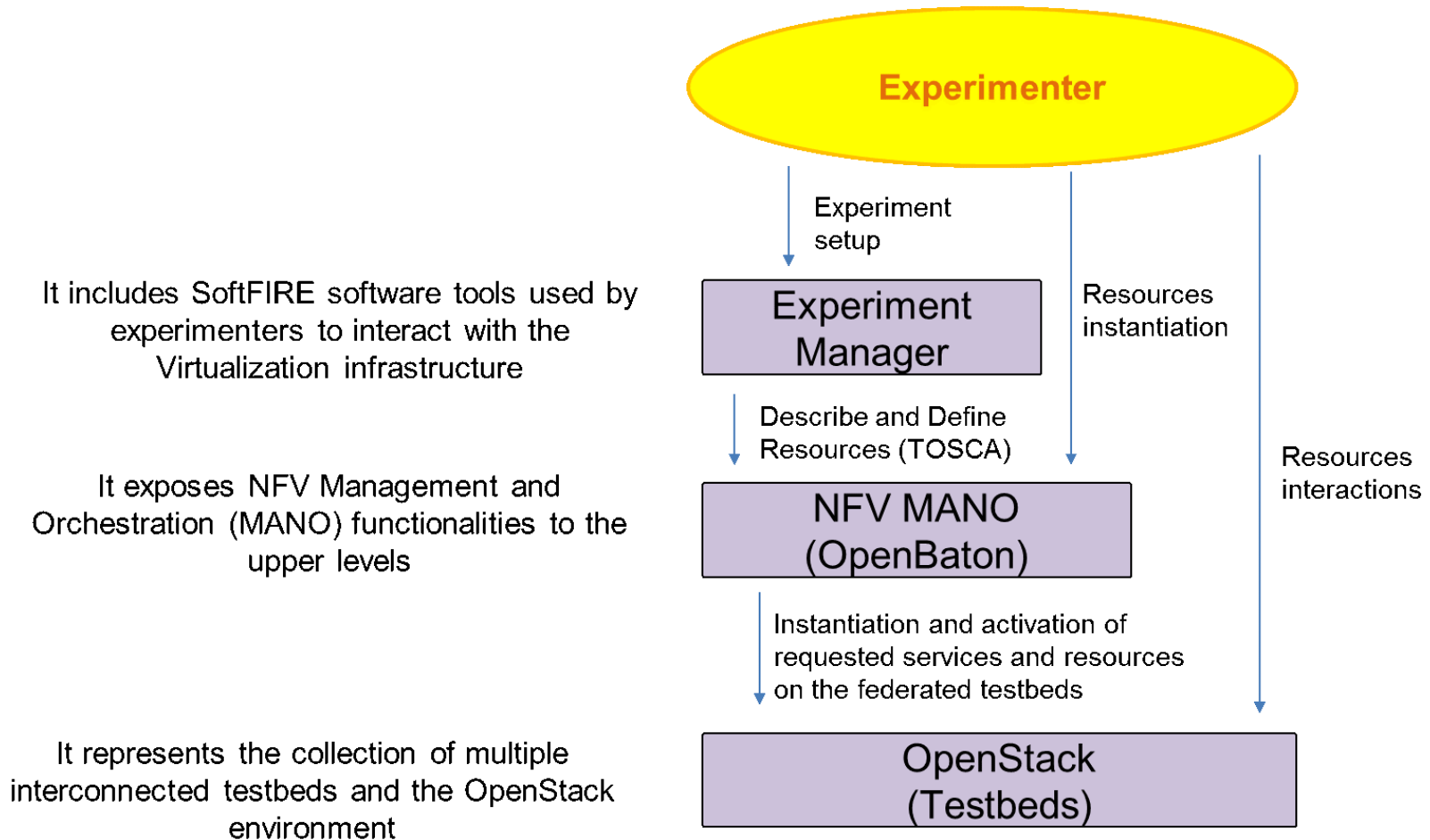
- Interoperability
 - Creation of a Federated Platform that can foster the studies towards 5G
 - A better integration between NFV and SDN
- Programmability
 - Virtualization of networked services with provision of several APIs
- The integration of Security with platform development
- Additional proposes
 - To measure the platform
 - The definition of KPIs and the initial proposition of best practices
 - It is not only the technologies it is also what you do to support their usage and how to measure their value
 - To manage the Platform
 - Plenty of processes and tools to be used

Infrastructure

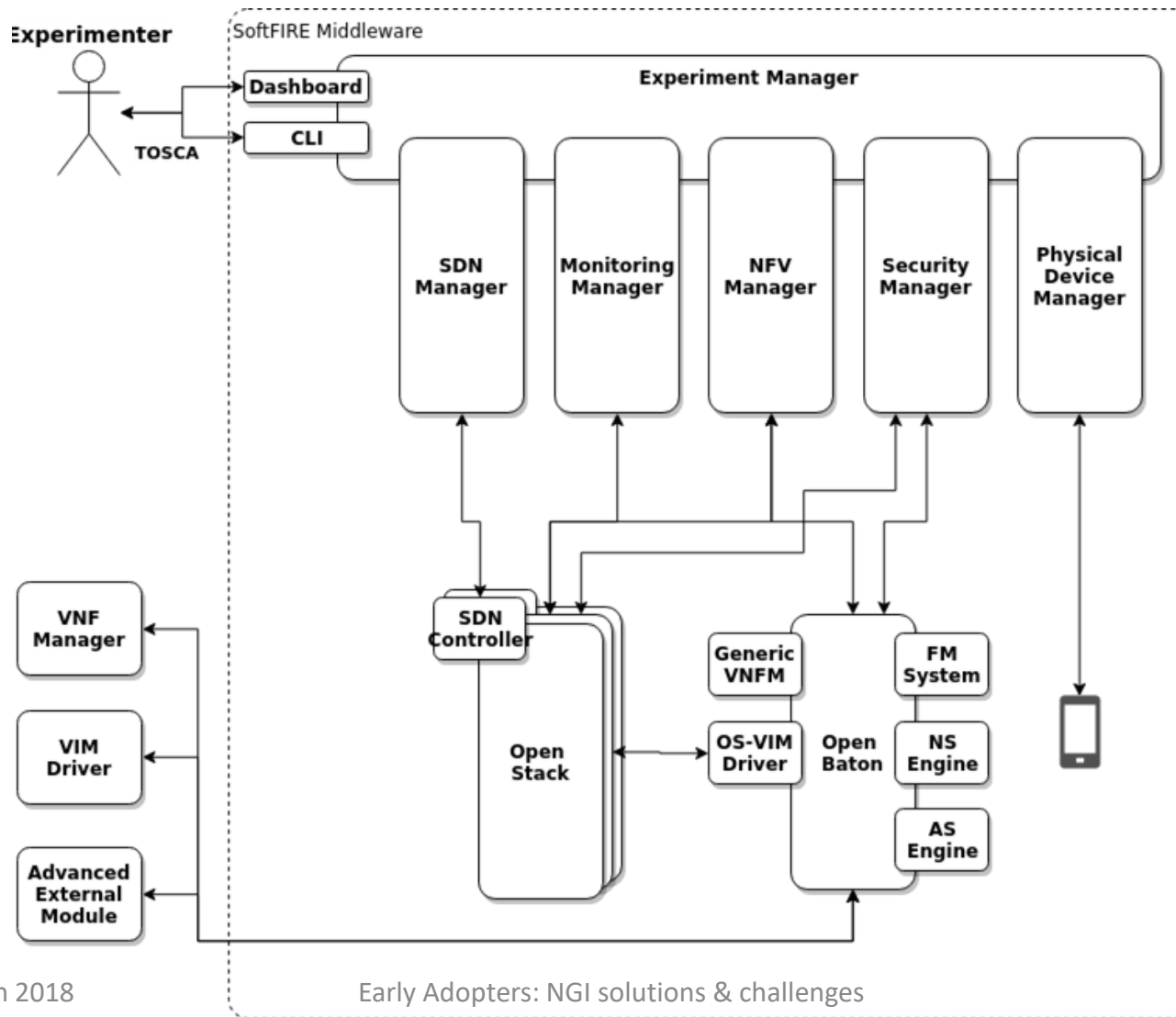
- Overview



SoftFIRE High Level Architecture



The SoftFIRE Middleware Architecture



Benefits of SoftFIRE

- An experiment manager able to support the needs of experimenters by allocating resources and interfaces
 - Different built-in functionalities
 - SDN, management, security as a service, ...
 - Heterogeneity of testbeds – High interoperability
 - Focused on programmability and security of experiments
-
- Ideal Platform for experimentations in 5G and NGI
 - Many experiments focused on Security, Networking and Network Services for future Internet
 - Many new appealing Use cases from IoT to multimedia and video services
-
- So far almost 40 experiments executed in 27 months
 - Three waves of OpenCalls executed, one Challenge and other events
 - An Innovation Hackathon in April 18th – 19th in Rome, Italy in Ericsson premises

<https://www.softfire.eu/events/innovation-hackathon/>

Next Steps

- Further integration and extension of functions
 - Service Function Chaining
 - New SDN controllers
 - Global Controller for heterogeneous networks
 - Global orchestration/delegation of federated island of control
 - Security built in approach
 - New functions and managers for controlling resources
 - Further work on KPIs definition and implementation
 - ...
- Infrastructure
 - Experiments with high speed connectivity
 - Scale up of the infrastructure (more testbeds)
 - Heterogenous sw infrastructures
- Services
 - New classes of services and applications

