



FLAME

Facility for Large-scale Adaptive Media Experimentation project



This project received funding from the European Union's Horizon2020 research and innovation programme under grant agreement No 731677



ICT-FLAME.EU



@ICT_FLAME

FLAME is transforming 5G media delivery



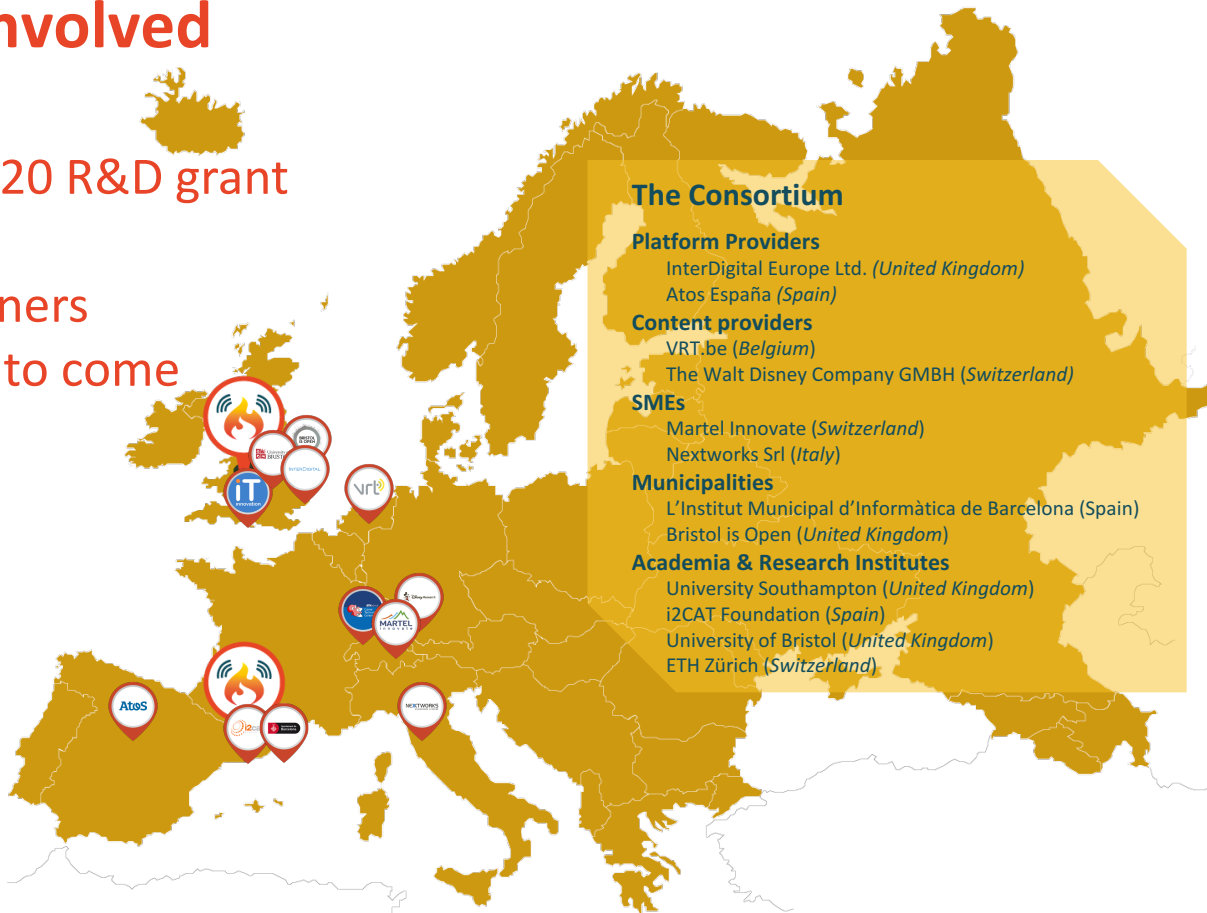
- 1. Building a ground-breaking media delivery platform that enables new media services for Smart Cities**
- 2. Running the first open 5G testbed for industry players to test new media services in real urban environments**



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Who's involved

- EU H2020 R&D grant
- 2 cities
- 12 partners
- ...more to come



The Consortium

Platform Providers

InterDigital Europe Ltd. (*United Kingdom*)
Atos España (*Spain*)

Content providers

VRT.be (*Belgium*)
The Walt Disney Company GMBH (*Switzerland*)

SMEs

Martel Innovate (*Switzerland*)
Nextworks Srl (*Italy*)

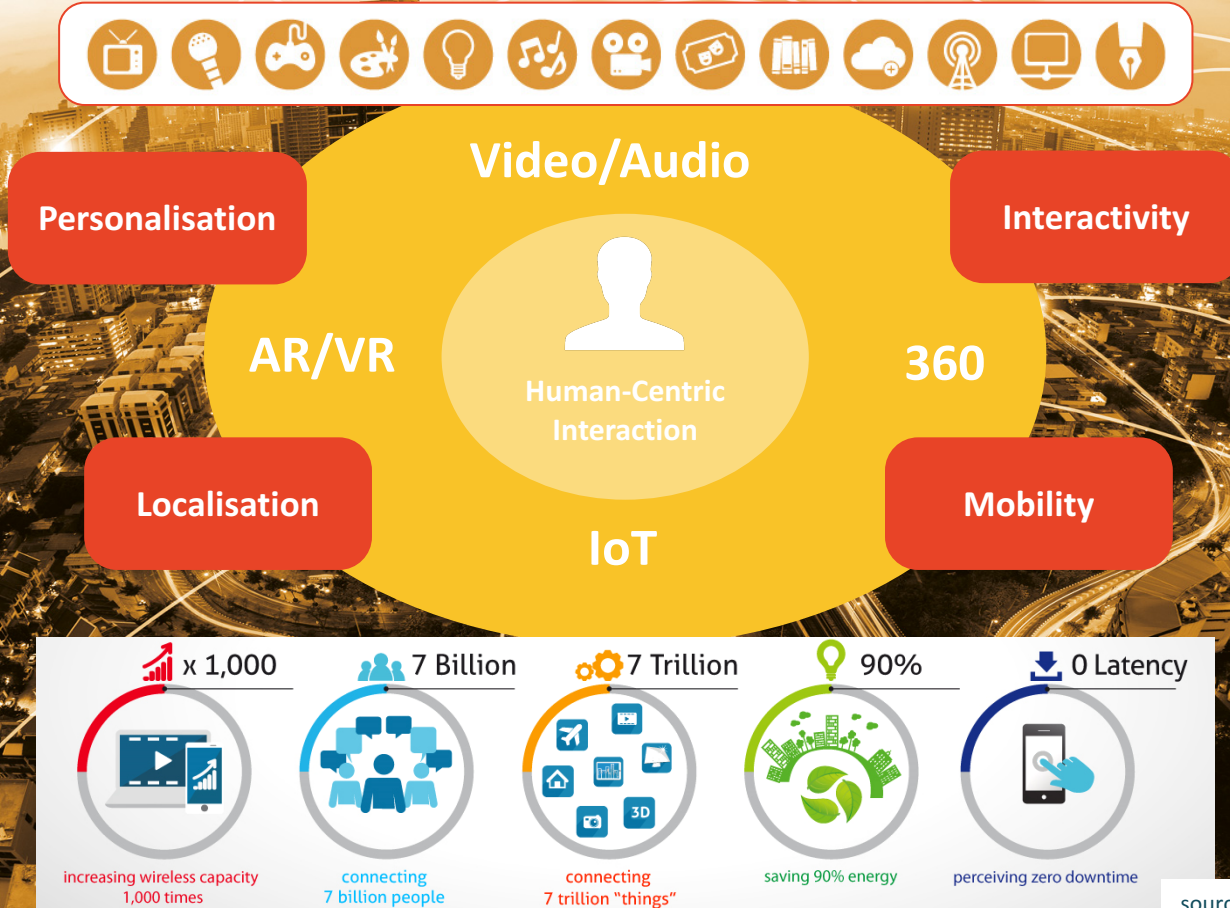
Municipalities

L'Institut Municipal d'Informàtica de Barcelona (*Spain*)
Bristol is Open (*United Kingdom*)

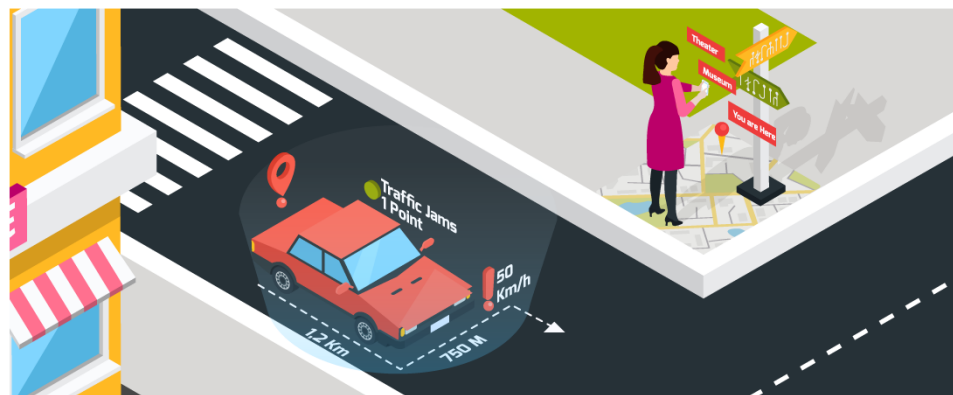
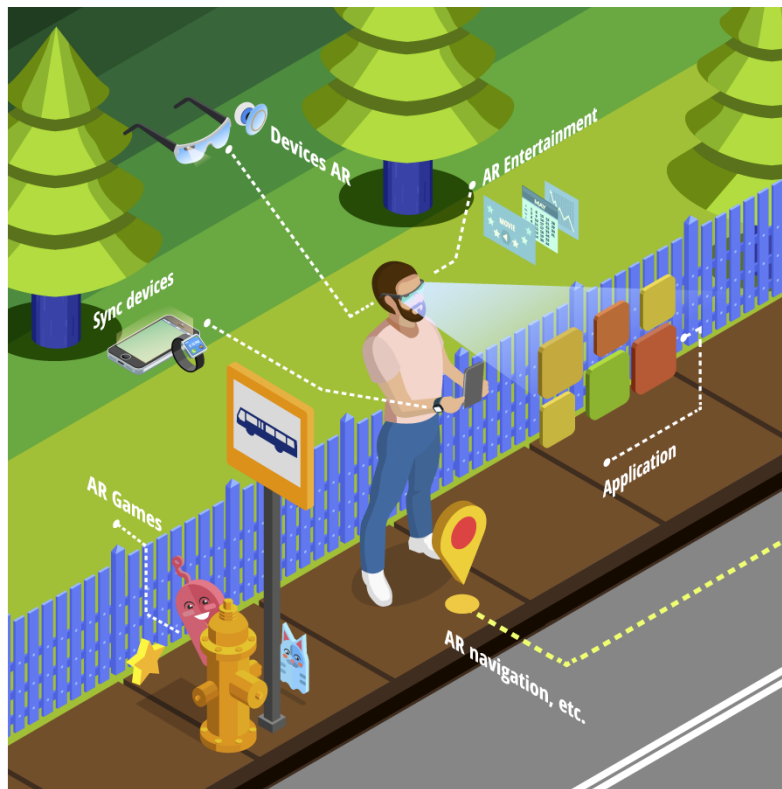
Academia & Research Institutes

University Southampton (*United Kingdom*)
i2CAT Foundation (*Spain*)
University of Bristol (*United Kingdom*)
ETH Zürich (*Switzerland*)

Media Scenarios



Real-Life Media Scenarios



The Approach

FLAME developed a **software based platform** that sits on top of a programmable infrastructure, improving media delivery to end users.

The platform allows for flexibly controlling the provisioning of content and services with the ultimate vision of the service ‘just being one hop away’.

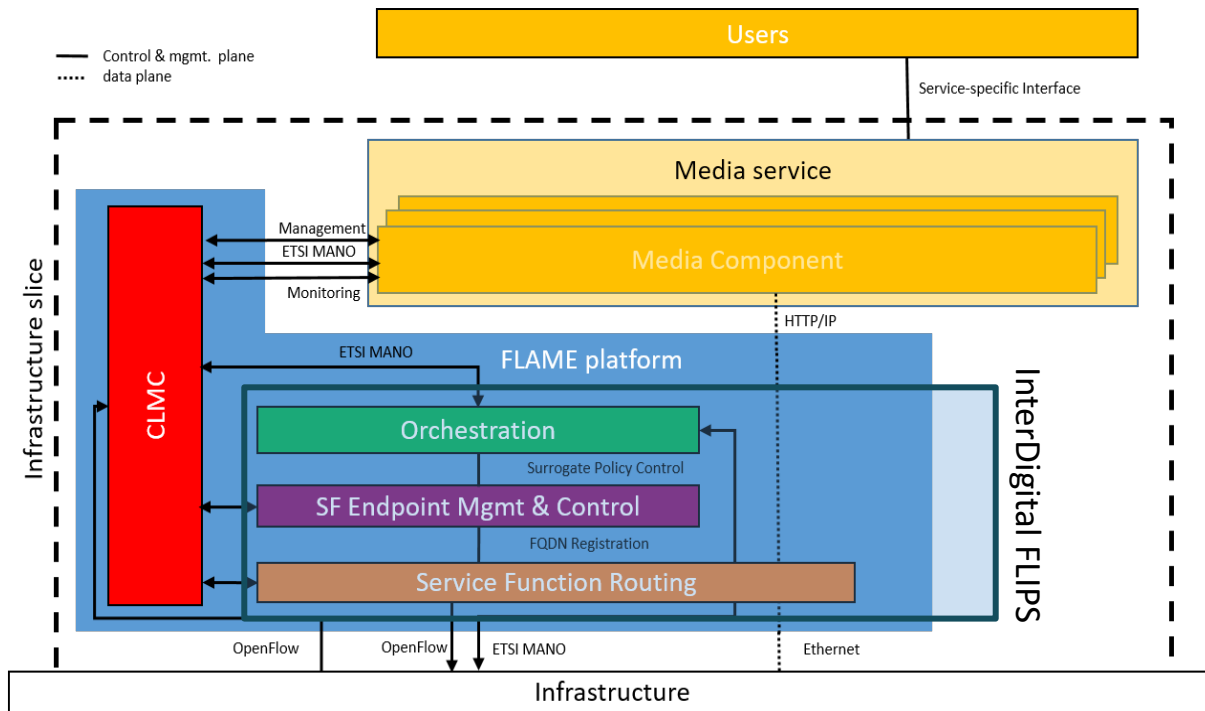
For citizens this means:

- **Better performance and lower costs** through efficient network mechanisms
- Access to **new services offerings** that exploit personalisation, interactivity, mobility and localisation
- **Easier collaboration** with other people on the network
- Enjoy the Internet through simply installing an **application** on their phone

The FLAME Service Delivery Platform



- **A new dynamic content production and delivery platform**
 - layered modular architecture with cross layer optimisation, analytics and control
 - distributed computing models that combine media cloud with mobile edge
 - software-defined infrastructure to support service endpoint management, routing & switching
 - Defines a network of media services utilising infrastructure
- **Supporting enhanced Quality of Experience**
 - personalised, interactive, mobile and localised media services



Validation through Urban Scale Trials & Experiments



- Validate platform capabilities by trials conducted by ecosystem partners
 - 5 operator infrastructures
 - 25+ customer trials
- New media formats (AR, VR, 360) and distribution channels
- Engagement with media service providers, content providers, infrastructure operators and beyond
- Trials will be conducted in 3 waves from Mar-18 to Dec-19
- Public funding available through H2020 FLAME project

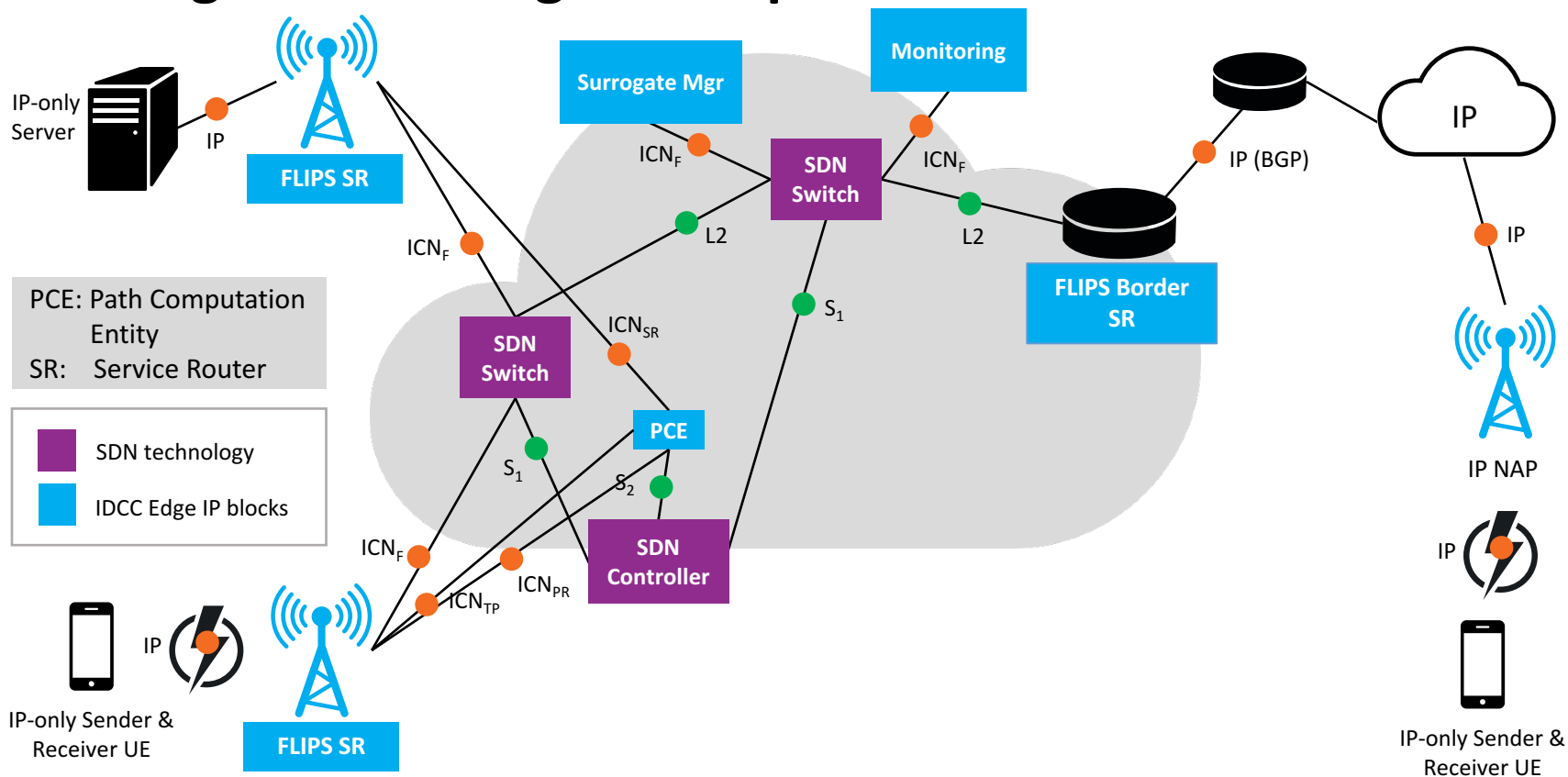


What InterDigital brings to FLAME Platform

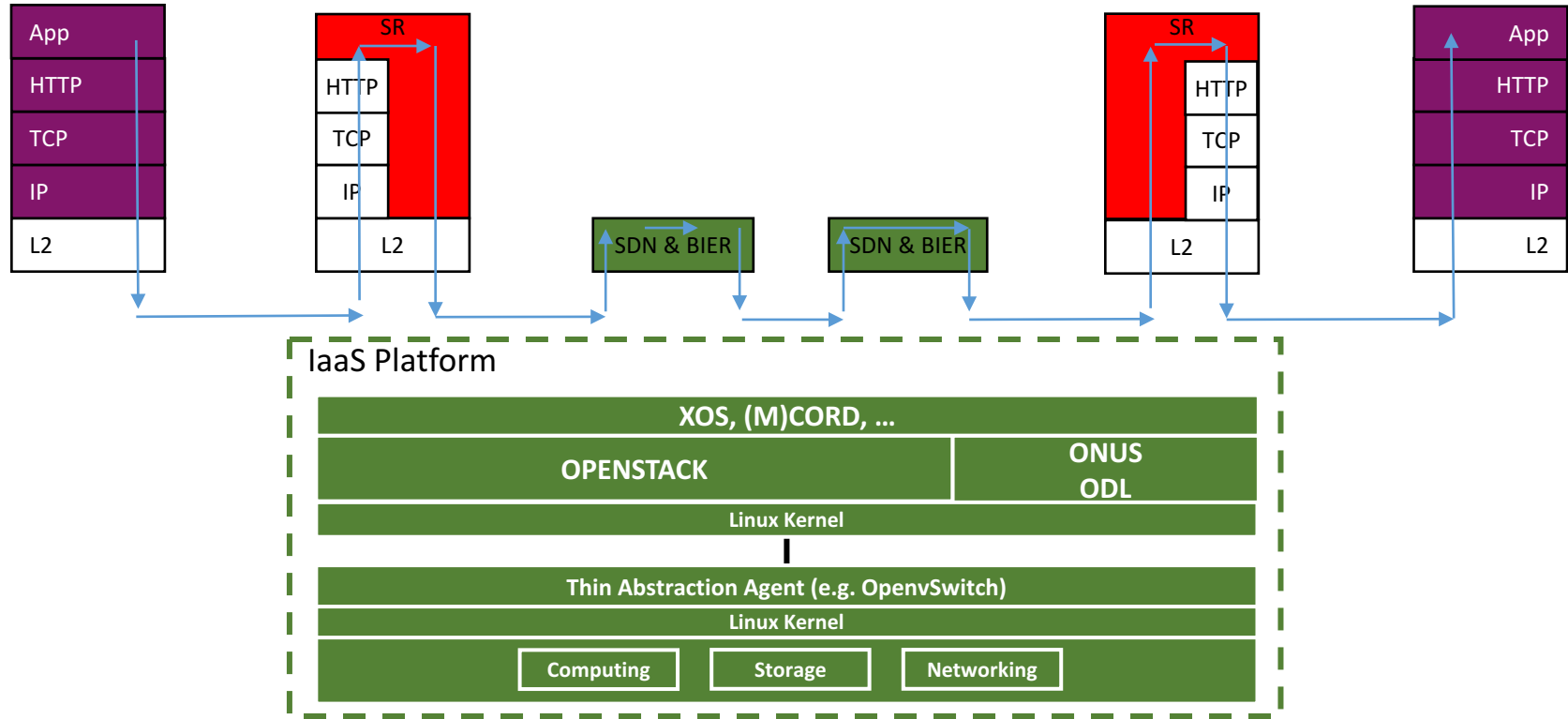
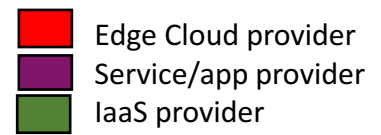
Solution to optimize the delivery of service requests on top of emerging programmable infrastructures, while providing the desired quantitative and qualitative benefits (such as in terms of low latency, much higher bandwidth, lower costs, improved security) for novel 5G services

It looks like IP, it smells like IP, BUT with this technology inside networks will simply work better...

InterDigital FLIPS Edge IP Proposition



Deployment at Edge Network



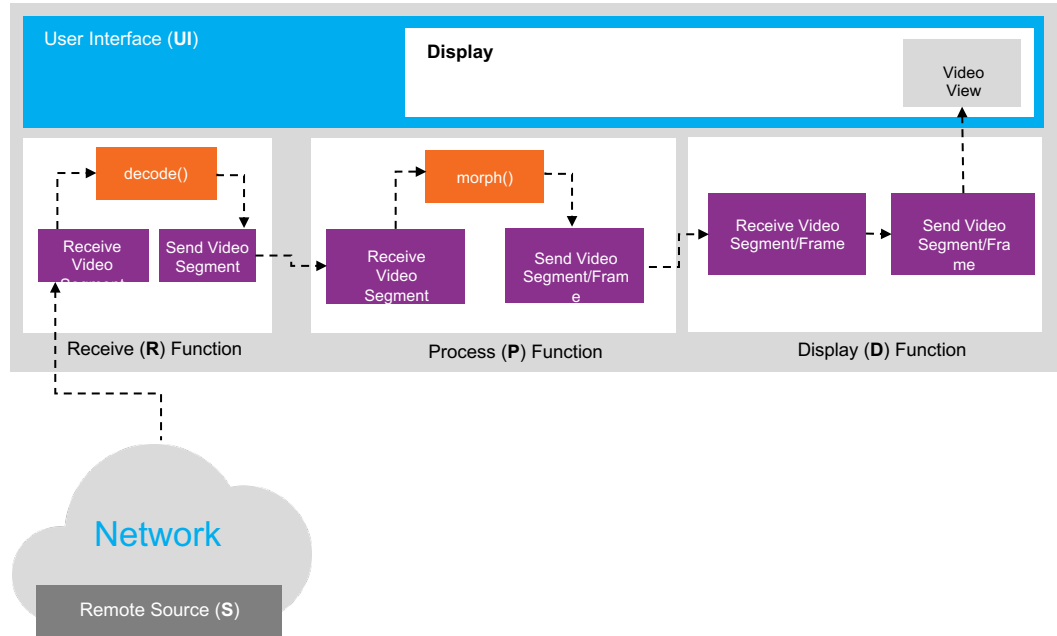
An aerial night view of a city, likely New York City, with a dense urban landscape. Overlaid on the city are numerous glowing white arcs and lines that connect various points across the skyline, suggesting a network or data flow. The sky is a warm orange-yellow, and the city lights are visible. A red banner is at the bottom.

DEMO: Disintegrated Terminal

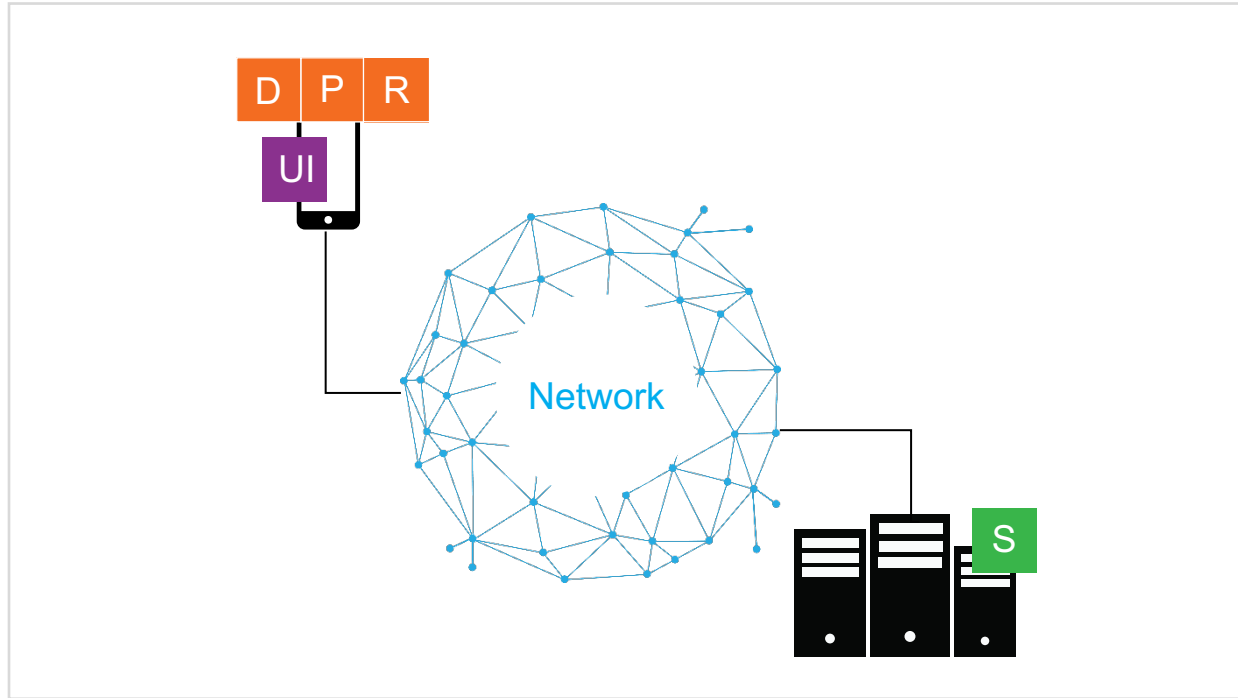
Disintegrate Your Terminal

...Flexible Function Offloading in Your Own Service Deployment

- Modular mobile app with HTTP-like interface for inter-process communication (IPC)
- Internal logic decides
 - To use efficient IPC if module exists on device
 - To use FLIPS-based routing to nearest network-based module if module does not exist on device
- Example: Simple video morphing app
 - UI to control local module availability

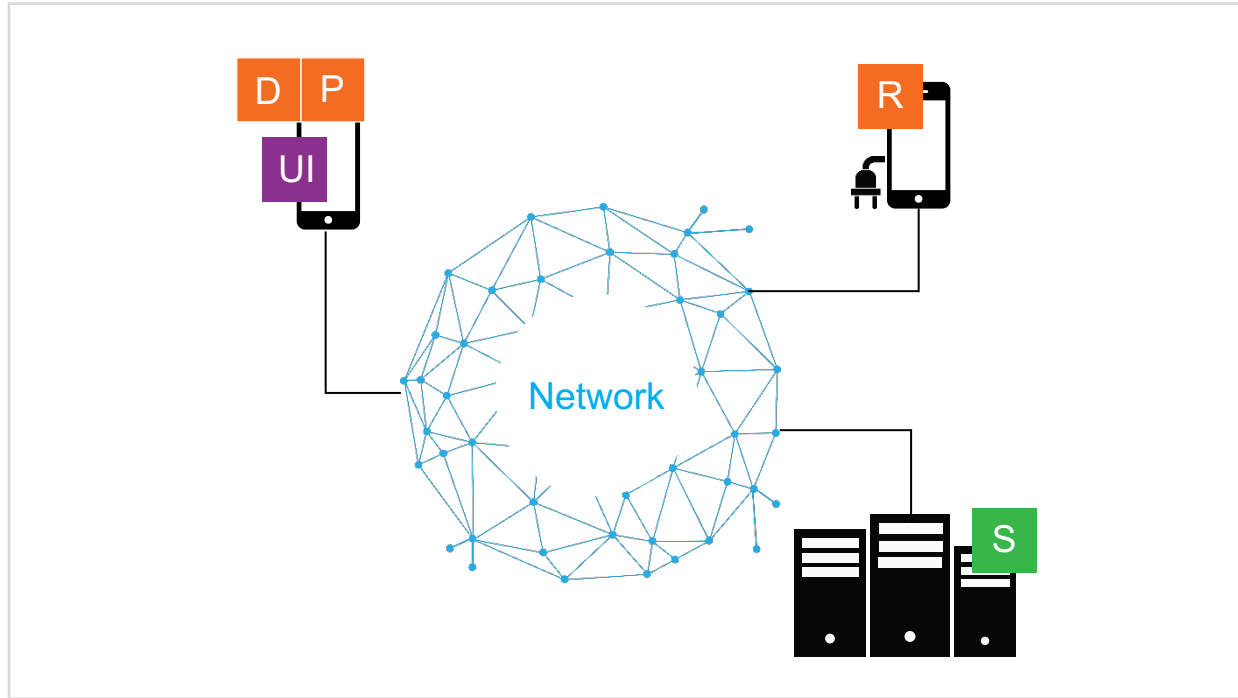


Monolithic Application



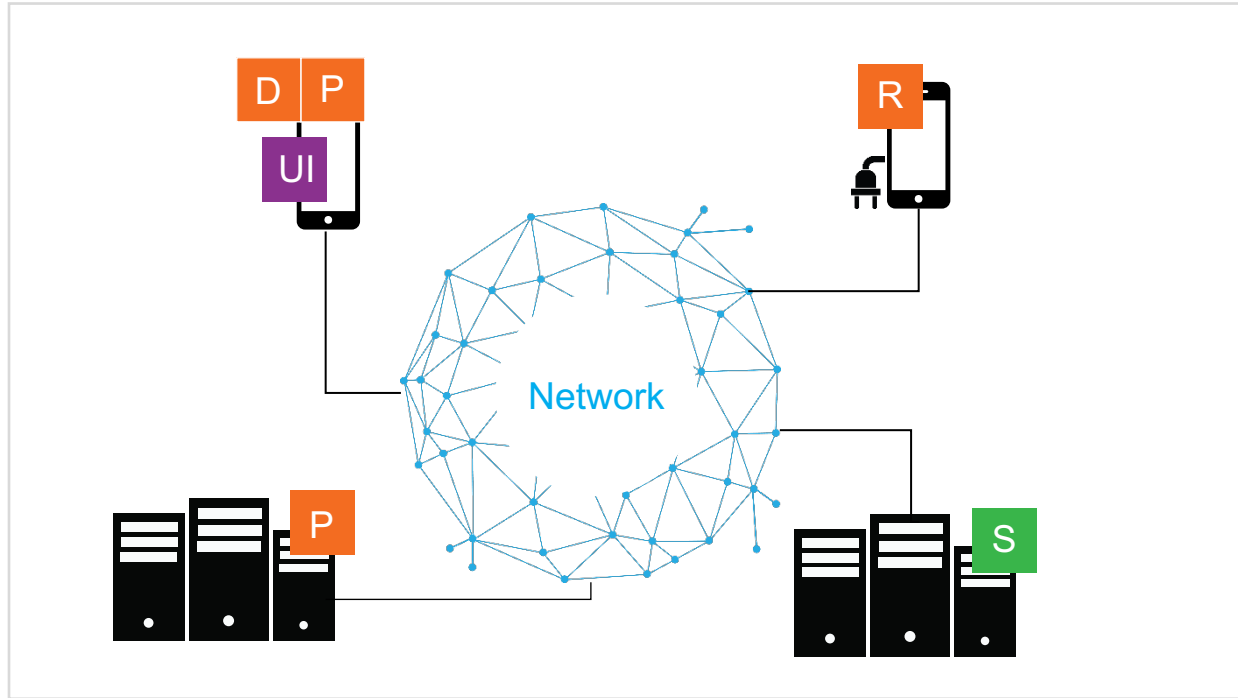
- UI** User Interface
- D** Display Function
- P** Process Function
- R** Receive Function
- S** Remote Source

Use a Powered Mobile Nearby



- UI** User Interface
- D** Display Function
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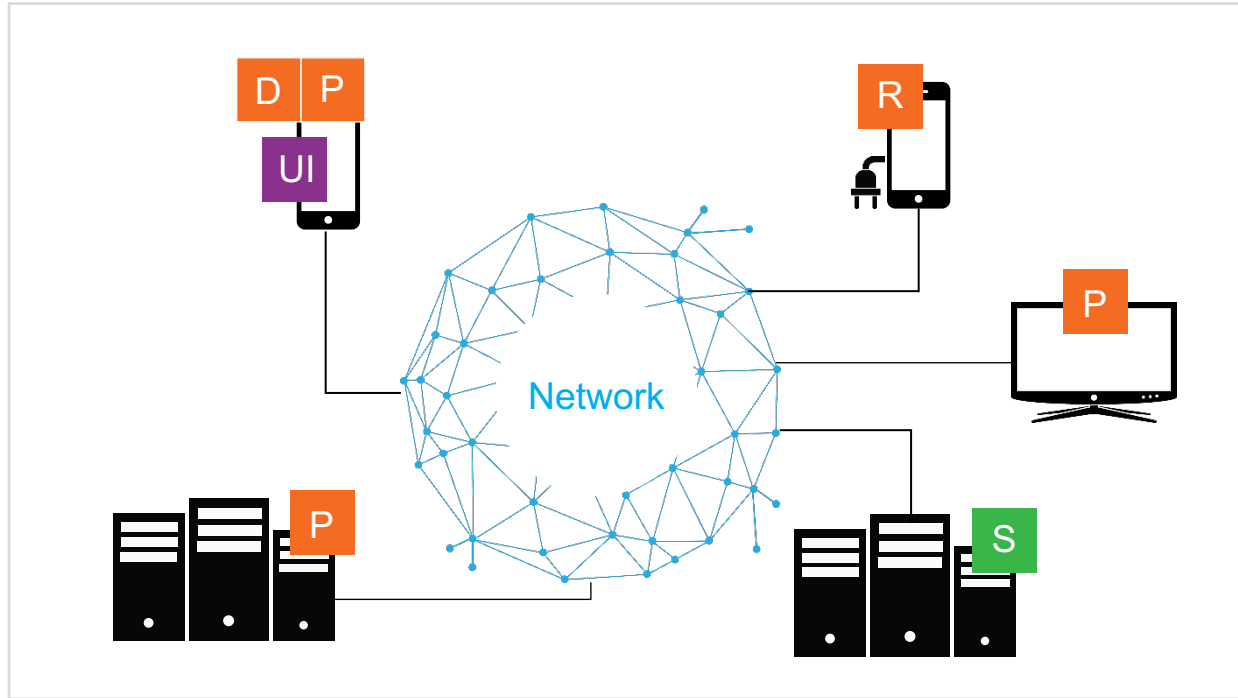
Use Network Assistance for Processing



- UI** User Interface
- D** Display Function
- P** Process Function
- R** Receive Function
- S** Remote Source

Use Nearby Smart TV for Display

...but keep control on your device



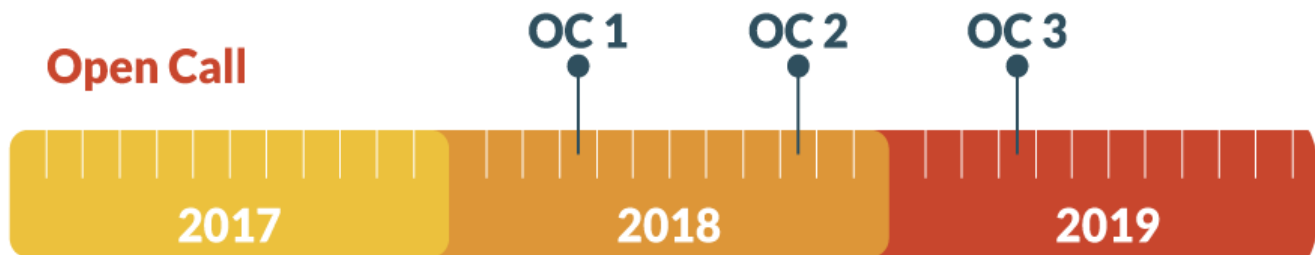
- UI** User Interface
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An aerial night view of a city, likely New York City, with a dense urban landscape and a river. Overlaid on the image is a network diagram consisting of white glowing nodes and curved lines, representing a 5G network. The nodes are positioned at various points across the city, and the lines connect them, forming a complex web. The overall color scheme is warm, with orange and yellow tones from the city lights and the network overlay.

OPEN CALL for 5G testbed participants

FLAME launches 5G testbed for trials

EUR 2.2M
to be invested
in 3 rounds of
Open Calls



Target Open Call Participants

- **Large corporations:** from multimedia & creative industries, investment firms and technology providers
- **SMEs/Start-ups** technologically involved in the development of multimedia solutions and products
- **FLAME replicators:** municipalities and network operators interested in replicating the FLAME platform in their city



1st Open Call – 6 participants

- **2x Corporate trials**
 - 12 months, 130K
 - Large scale and significant sectorial impact
 - Beta platform
- **4x SME trials**
 - 6 Months, 70K
 - Innovative OTT media technologies, ISPs and Vendors
 - Alpha platform



OPENS APRIL 2018

2nd Open Call – 8 participants

- **3x Replicators - cities**
 - 12 Months, 130K
- **5x SME trials**
 - 6 Months, 70K
 - innovative OTT media technologies, ISPs and Vendors
 - Beta platform



OPENS NOVEMBER 2018

3rd Open Call – 12 participants

- **1x Corporate trial**
 - 6 Months, 100K
 - technologies with large scale and significant sectorial impact
- **5x SME trials**
 - 6 Months, 70K
 - innovative OTT media technologies, ISPs and Vendors
 - RC platform
- **6x Start-up trials**
 - 6 Months, 50K
 - innovative OTT media technologies



OPENS APRIL 2019