
creating the
living network.

Together



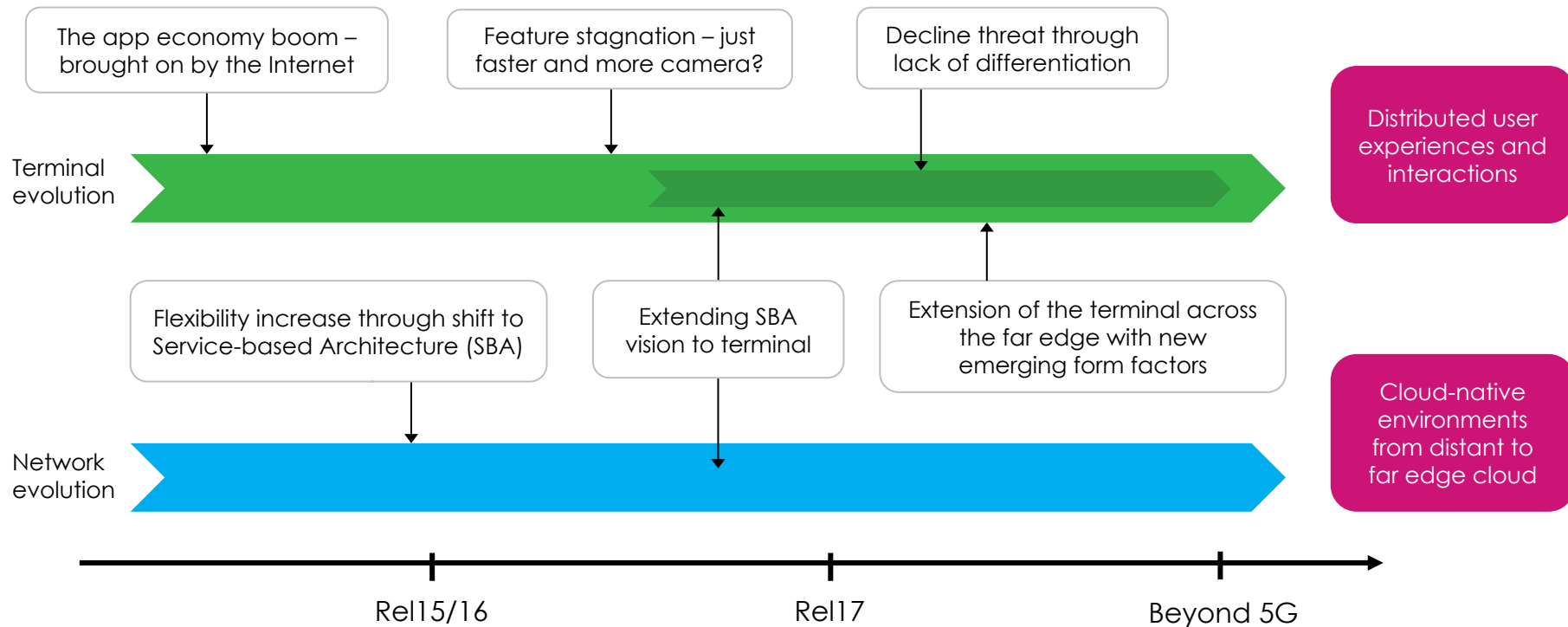
Core Network Testbeds

Advancing Terminal Connectivity
through Enhanced End-to-End
Service Based Architecture



INTERDIGITAL®

A Stalling or Invigorated Terminal Market?





Drive micro-services
from the deep cloud
data center down
into new terminals
and user interactions

Our Vision

Apply principles that made major Internet players successful to enable new wireless experiences by delivering a flexible, innovative micro-service platform that is integrated across the distant cloud over mobile networks to far edge devices.

The target for this tech: Smartphone
& edge device vendors, telcos

An Early Glance on that Vision



INTERDIGITAL

Storyboard

Home

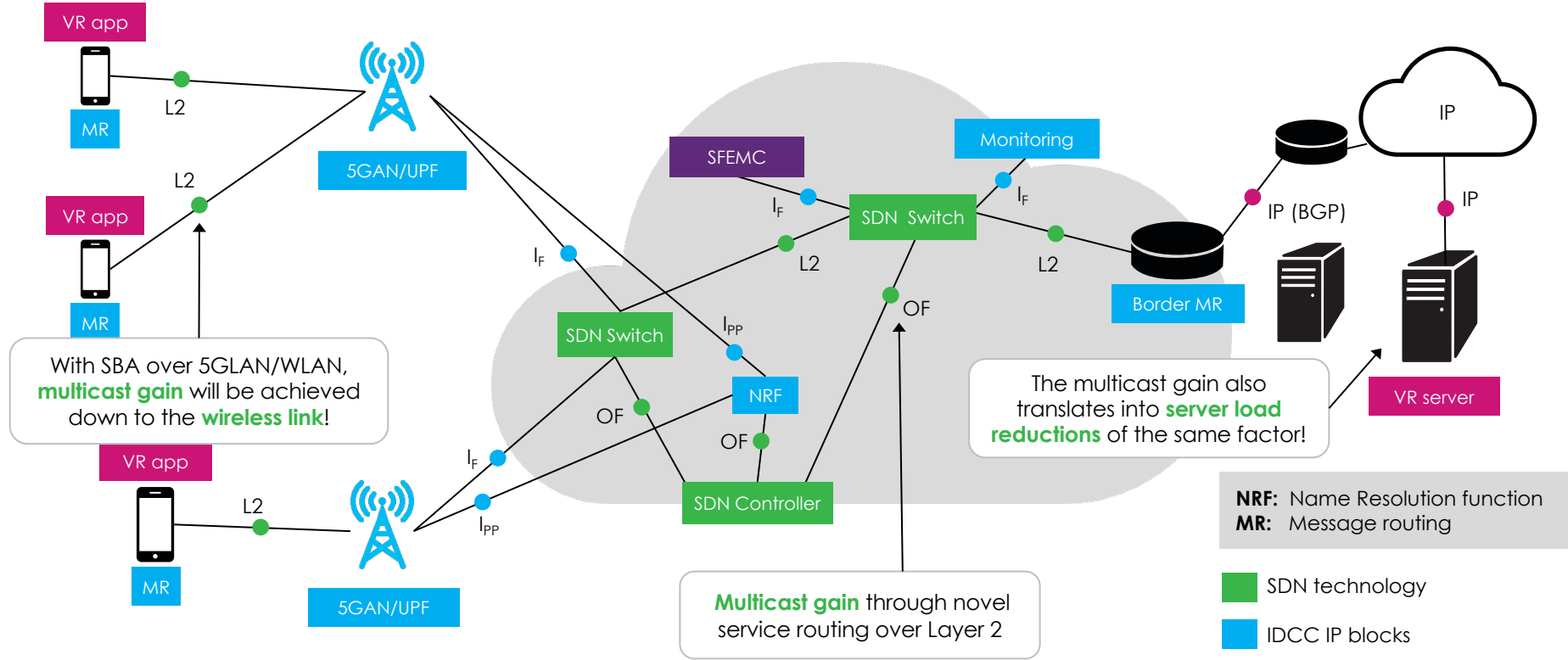
Hotel

Bob's tired of watching on his terminal and moves the display to the large screen TV in his room



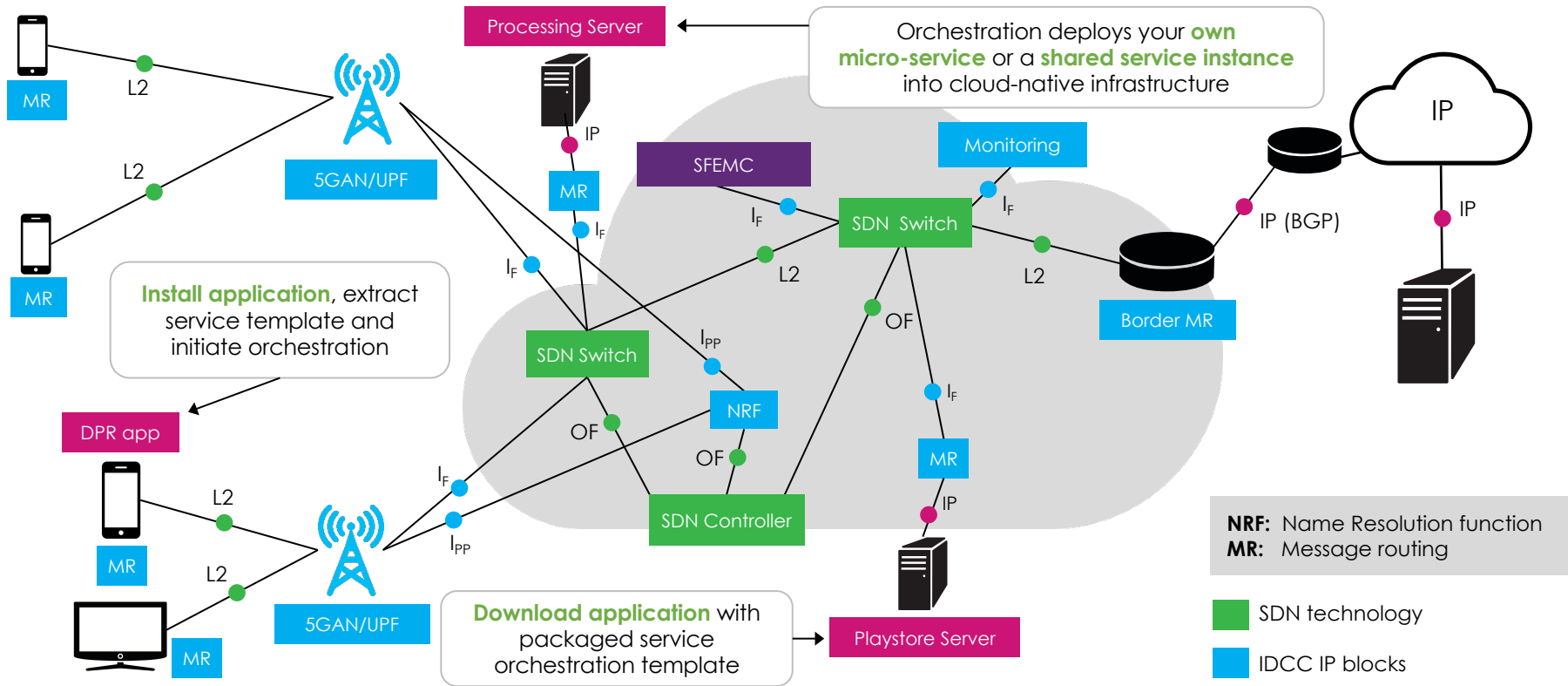
Demo Aspect 1: Multicast Gains Through Novel Service Routing

...Down to the Radio Link to Improve Terminal-centric Experiences



Demo Aspect 2: Boot Your Own Service

From Your Smartphone



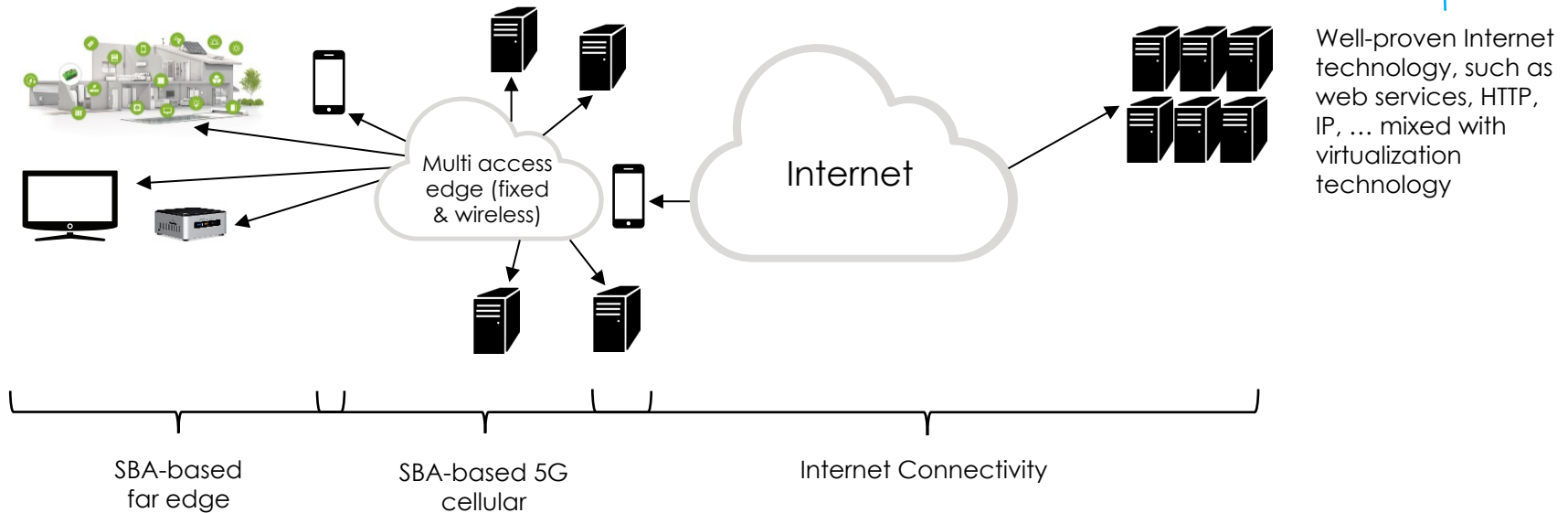
What Drives this Vision?



Micro-Services From Far-Edge to Distant Cloud

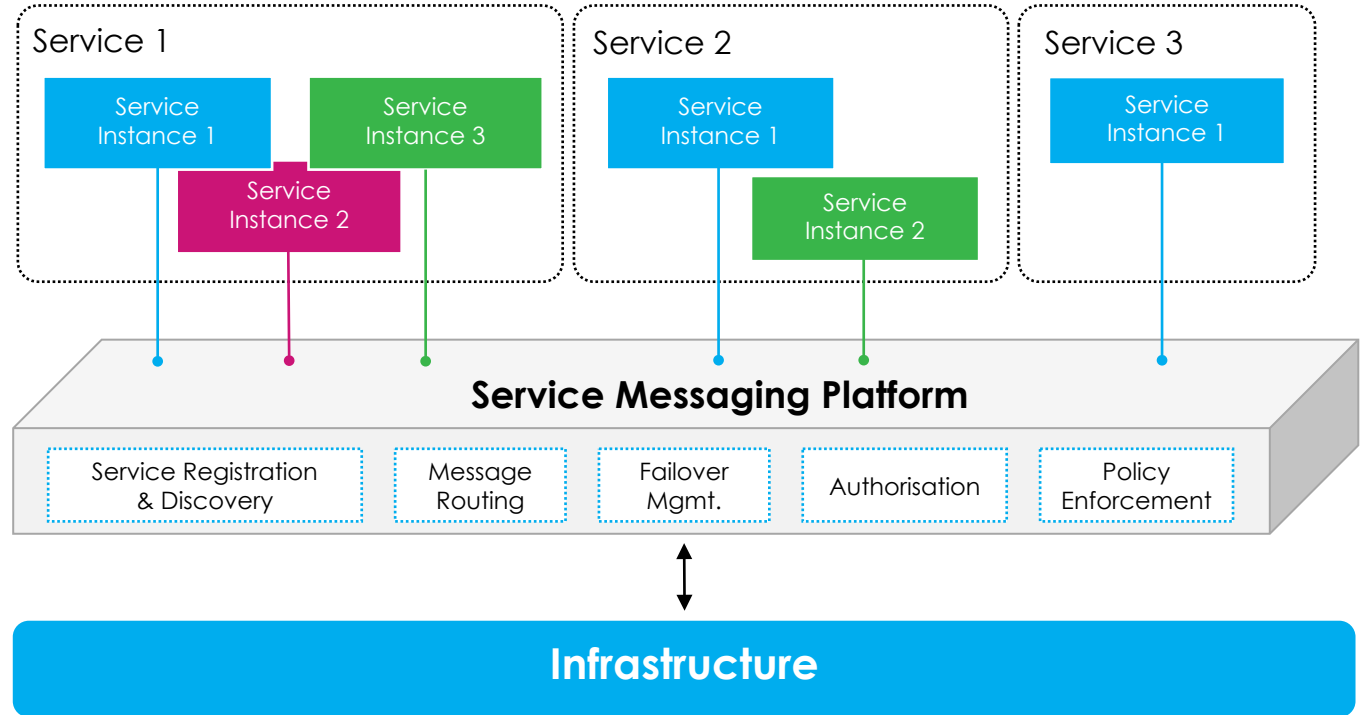
Anything-as-a-Service (new interactive, immersive experiences, localized where possible)

Service-based architecture across all edge and the Internet



Move to Cloud-Native Operator Environments

- Micro-service vision with anything-as-a-service
- Efficient service message routing
- Regional data centres with SD-WAN transport



Internet-as-an-Application



The background of the slide features a photograph of two young women with long hair, smiling and looking towards the camera. The entire image is overlaid with a semi-transparent blue filter. The woman in the foreground is slightly to the right and is smiling with her eyes closed, while the woman in the background is to the left and is also smiling.

Our Contribution to this Vision



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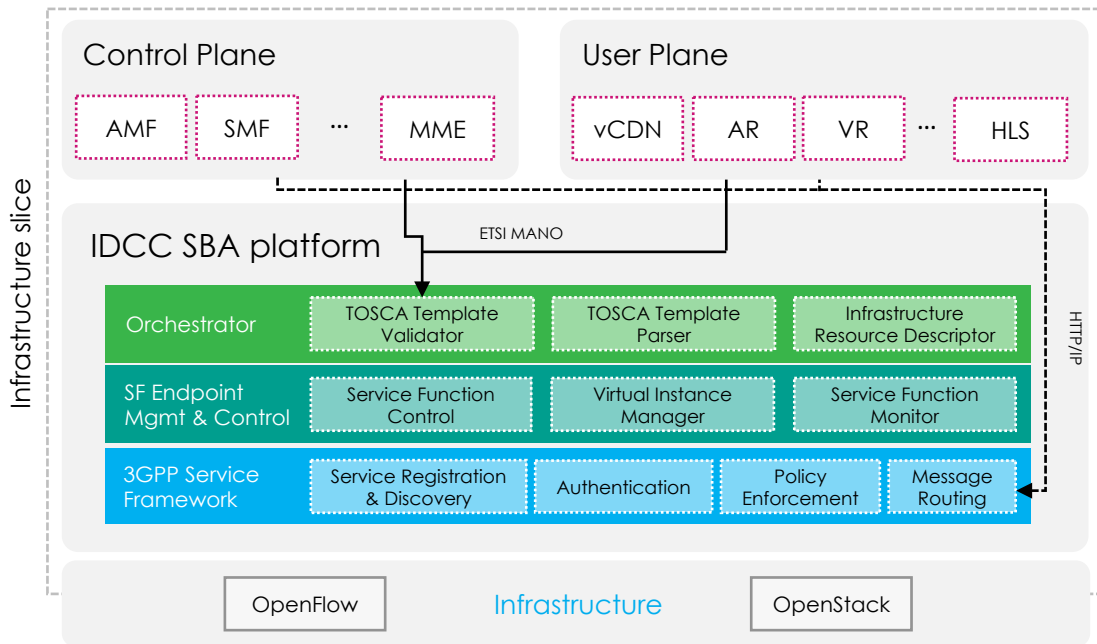
InterDigital SBA Platform

Grounded into Ongoing Rel16 Work but Pushing the Vision Beyond (5G)

5G Rel16 compliant service delivery platform that has proven MEC services & capabilities, delivered in minutes or less over managed cloud-native operator infrastructures

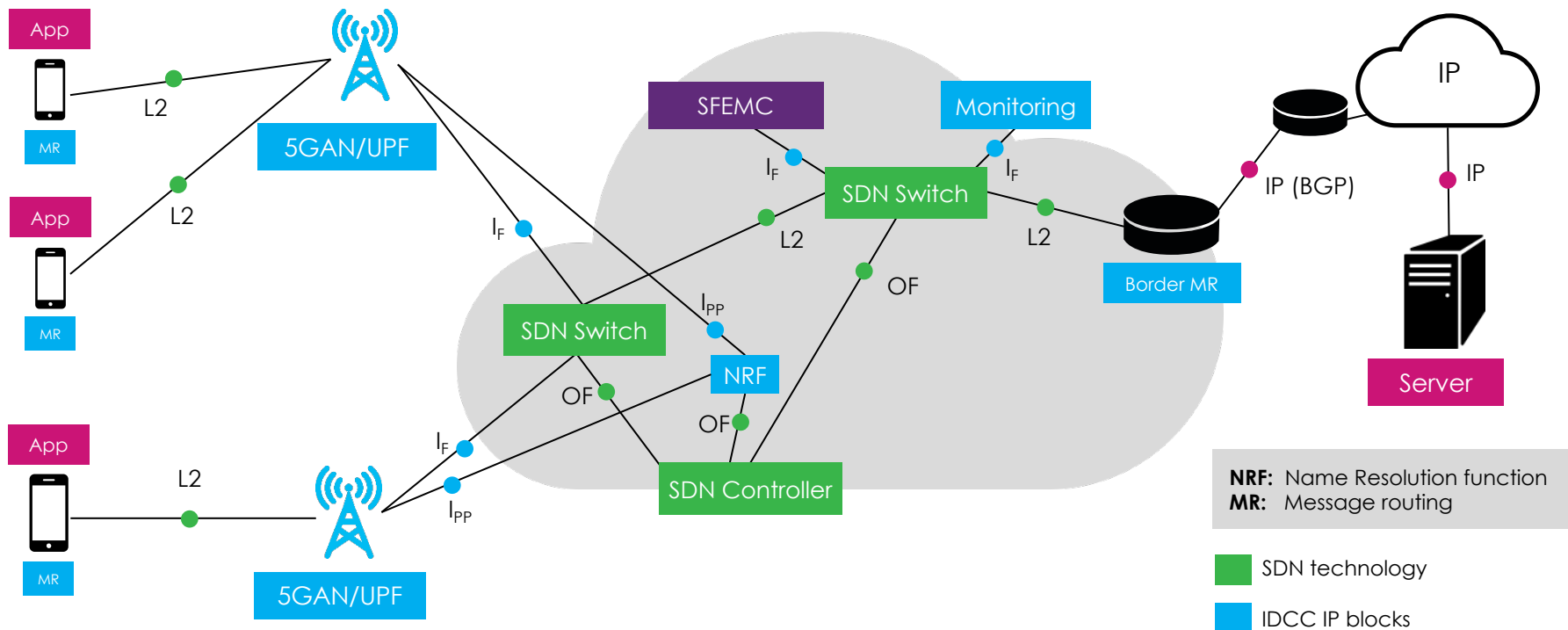
- We have also proven an array of other capabilities are possible through this technological approach:
 1. Cap linear cost increases of HTTP-based streaming through L2 multicast method
 2. Reduce E2E latency significantly by dynamic end point selection nearest to users <20ms
 3. Reduce recovery from service & network failures to <1sec compared to DNS-based failovers in minutes
 4. Increase device battery performance by 50% through real time offloading device functions to edge resources
- Pushing beyond Rel16 with integration of user plane and terminal-based micro-services

InterDigital 3GPP Compliant SBA Development Platform



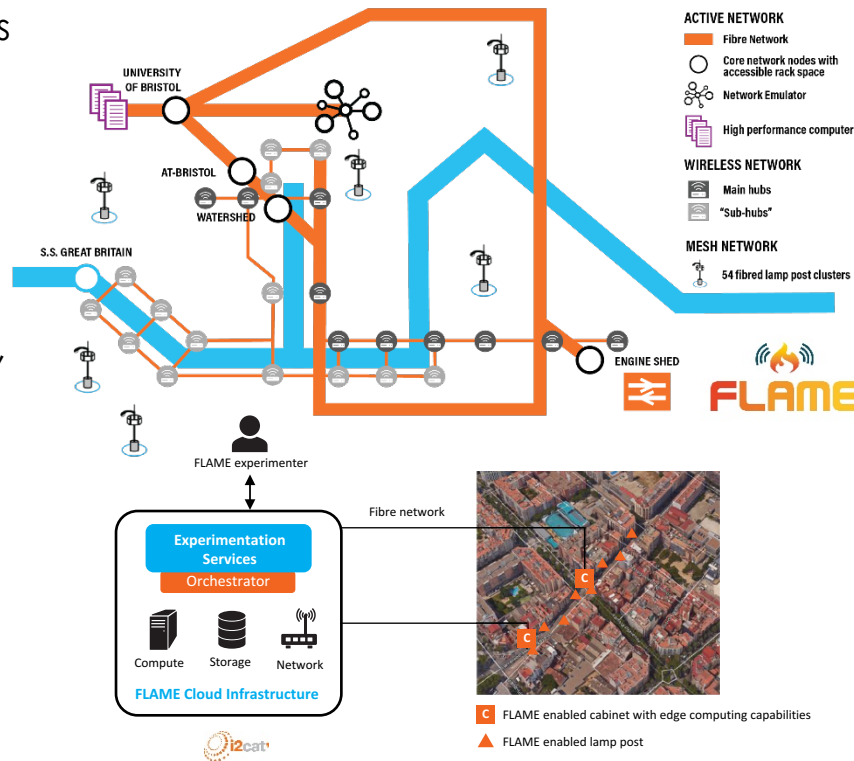
InterDigital SBA Platform

Moving Onto the Terminal to Pave the Way for New User Interactions

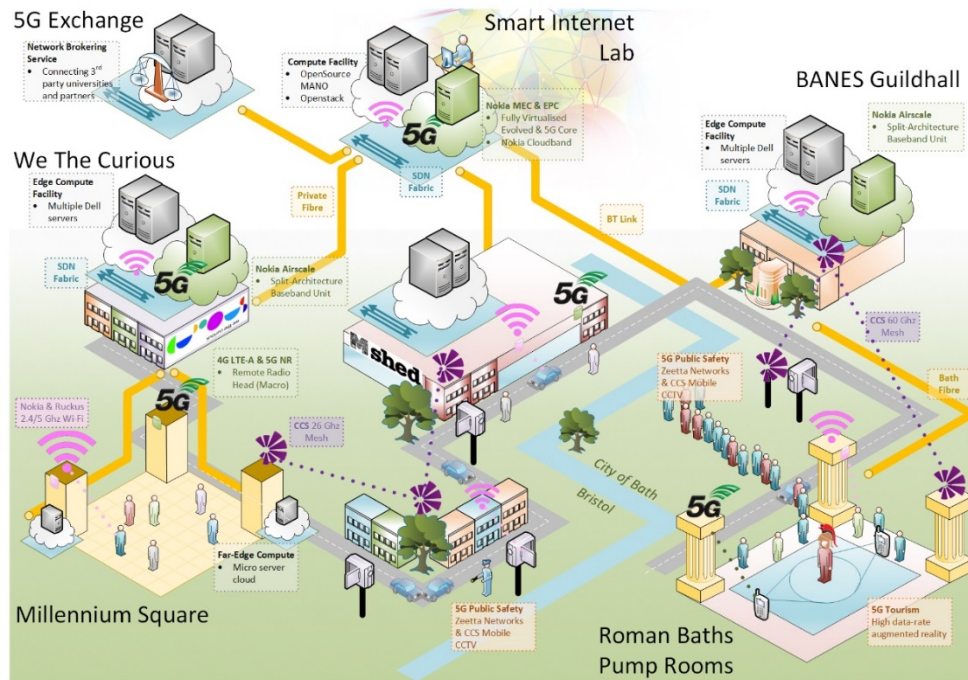


Validation through Urban Scale Trials & Experiments

- Validate platform capabilities through 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 January 2019 to June 2020
- Public funding available through H2020 FLAME project



Deployed Across Two UK Cities for Large-Scale Trials in 2019



Technology Highlights

- Multi-RAT
 - 5G NR & 5G mmW
 - LTE-A
 - Wi-Fi
- Micro-data centers in
 - Roman Baths & Guildhall
 - We The Curious
 - Smart Internet Lab providing MEC services
- Use cases in guided VR tours, AI-assisted image recognition & public safety

Working with Partners Across Horizon 2020

Platform providers	Partners (38)
Vendors	InterDigital, ATOS
Content	Disney Research, VRT Belgium
Operators	Deutsche Telekom, Orange, Telenor Guifi.net, Avanti, Primetel
SMEs	CTVC, Ell.i, Martel Consulting, Ubitech, B-COM, Eurescom, Nextworks
Municipalities	Barcelona, Bristol-is-Open
Academia & Research Institutes	Athens University of Economics & Business, Aalto University, RWTH Aachen, TU Munich, Cambridge University, University of Essex, TU Kaiserslautern, i2CAT, iMinds, King's College London, Fraunhofer Fokus, IT Aveiro, IT Innovation, University of Bristol, ETH Zurich



EUH2020 funded under grant #643990
<http://www.point-h2020.eu>



EUH2020 funded under grant #644663
<http://rife-project.eu>



EUH2020 funded under grant #731677
<http://www.ict-flame.eu>



Unfunded international research
and innovation project
<http://www.5g-control-plane.eu>



13.5MIL EURO
Combined H2020 Funding



Showcased as **ETSI MEC PoC**
Successful **5G network trial in 2017**
Won **CSI Award 2018**