



FLAME

FACILITY FOR LARGE-SCALE ADAPTIVE MEDIA EXPERIMENTATION

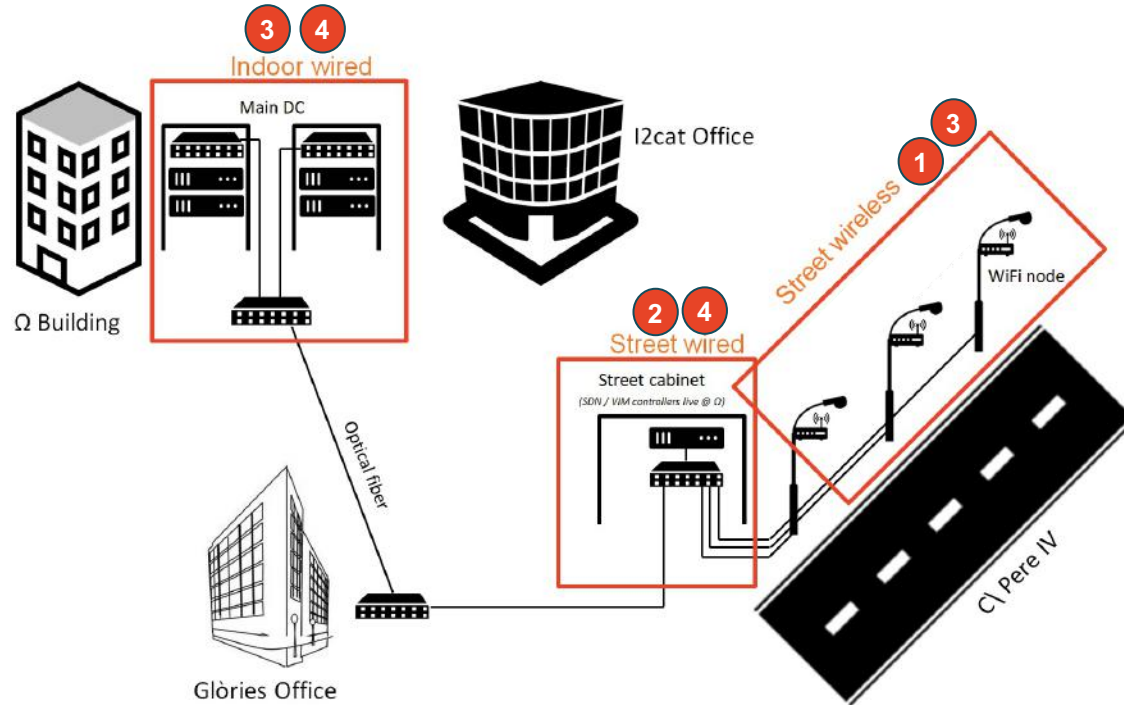
Barcelona Testbed

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Webinar OC3 - FLAME

2 Sep, 2019

Deployment Schematic



- 1 High speed radio access with mobility support
- 2 Edge computing capabilities
- 3 SDN/ICN technology to achieve multicast gains
- 4 Integration with FLAME platform for automatic service provisioning through NFV

Barcelona Location Overview



Detailed View: Pere IV Street

- 4 Wi-Fi APs mounted on lamp posts, between 1 and 4 can be used for experiments
- Continuous coverage of around 300-400m along the Street
- Street cabinet offers compute capacities to host edge functions

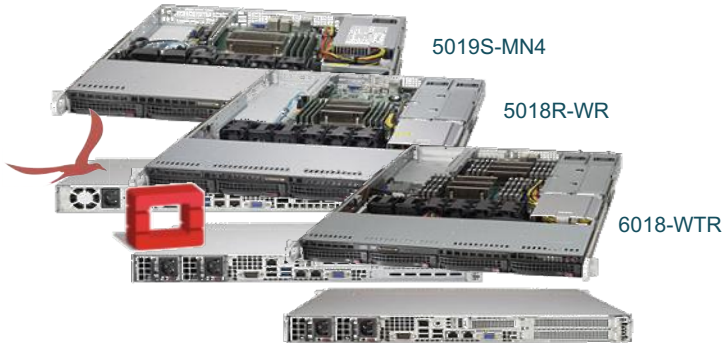


Fotos from the on-Street Deployment



Data Center & MEC Equipment

Main DC @ i2CAT



MEC @ Street Cabinet

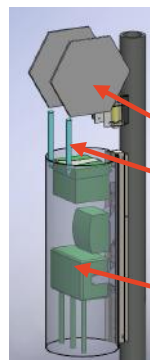
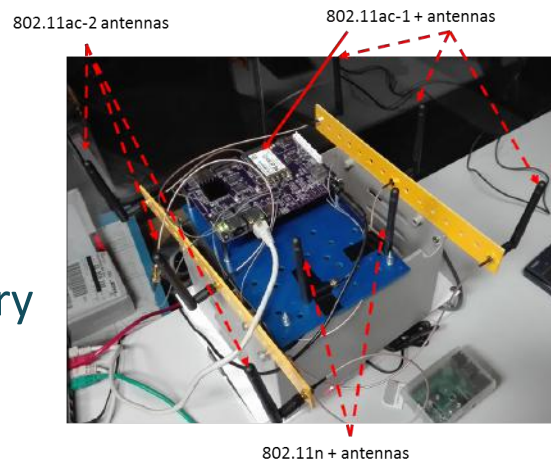


FLAME enables compute resources to be used by experimenters and media services at both locations

	vCPUs	RAM	Storage
Main DC	10	32	200 GB
MEC	14	32	200 GB

Radio Access equipment (custom, as in Barcelona)

- **Board:** Gateworks Ventana 5410
 - Freescale™ i.MX6 1GHz Quad Core ARM® Cortex™ -A9
 - 1Gbytes DDR3-1066 SDRAM Memory
 - Two GbE Ethernet Ports
 - 6 miniPCIe ports
 - DOS: Ubuntu 12.04 (4.7 kernel)
- **Wireless NICs:**
 - 11ac: QCA9888 2x2 (Wave 2)
 - At least 3 (2 BH, 1 access)



Planned device integration in Barcelona

Wireless backhaul @ 5GHz

Wireless Access @ 5GHz

Regular Wi-Fi BCN node



Technical Support / User Access

- We use several channels of communication
 - FLAME Gitlab for tracking any technical issues
 - Mailing list for any organizational/non-technical issues
 - Microsoft Teams for chatting (during live testing/debugging sessions)
- Issues related to infrastructure will be handled directly by i2CAT/IMI
 - Any other issue will be handled by the consortium as a whole
- Credentials will be created for experimenter to gain access to the gateway server from which they can interact with the system once the tests in the sandpit have finished

Testbed Access Policies

- Remote experiments and on-site support are possible and require the OK from Infrastructure and Platform responsables
- Testbed supports a single experiment at a time
- Operation times of the testbed are 9h – 16h
 - During July & August they are from 9h-15h
 - During (local) holidays the testbed is not accessible
- Cabinet and lamp posts are “out of reach” to experimenters
 - Hardware cannot be modified/upgraded
- Permission for carrying out trials on street needs to be requested with at least 3 weeks of anticipation
 - Additional requirements need to be notified (e.g. table, power plugs, etc.) and availability will be checked by infrastructure providers. More complex setups may require additional planning and thus earlier notification.