



**FLAME**

FACILITY FOR LARGE-SCALE ADAPTIVE MEDIA EXPERIMENTATION

# FLAME: Platform, Infrastructures, and Foundational Media Services

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# The FLAME Service Delivery Platform

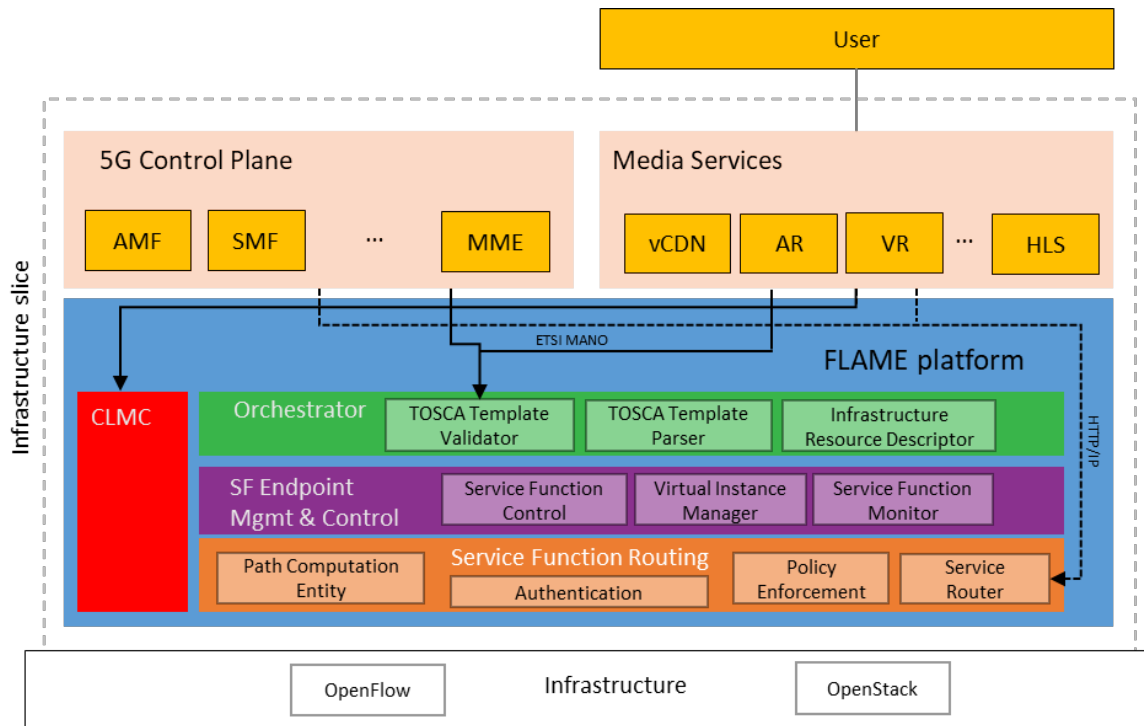


- **A new dynamic content production and delivery platform**

- Layered modular architecture with cross layer optimisation, analytics and control
- Distributed computing models that combine distant media cloud with mobile edge, i.e., support for many points of presence
- Deployed in software-defined infrastructure in minutes, supporting flexible service endpoint management, routing and switching

- **Supporting enhanced Quality of Experience**

- Personalised, interactive, mobile and localised media services



# Technical Proposition

## FAST, ADAPTIVE

- **Faster response, better engagement**
  - service deployment at the edge of the network (e.g. in a street cabinet)
  - compute located just one hop away (at best) from the users, low latency access
  - compute workload distributed across the network
- **Improved service request routing**
  - fast (between 10 and 20ms) switching time from one service instance to another by not relying on the DNS.
  - overcomes inefficient 'triangular' routing of requests in current IP networks
- **Multicast delivery of http responses**
  - multicast-based delivery of HTTP responses to service request transparently to the (otherwise unicast) semantic of HTTP transactions.

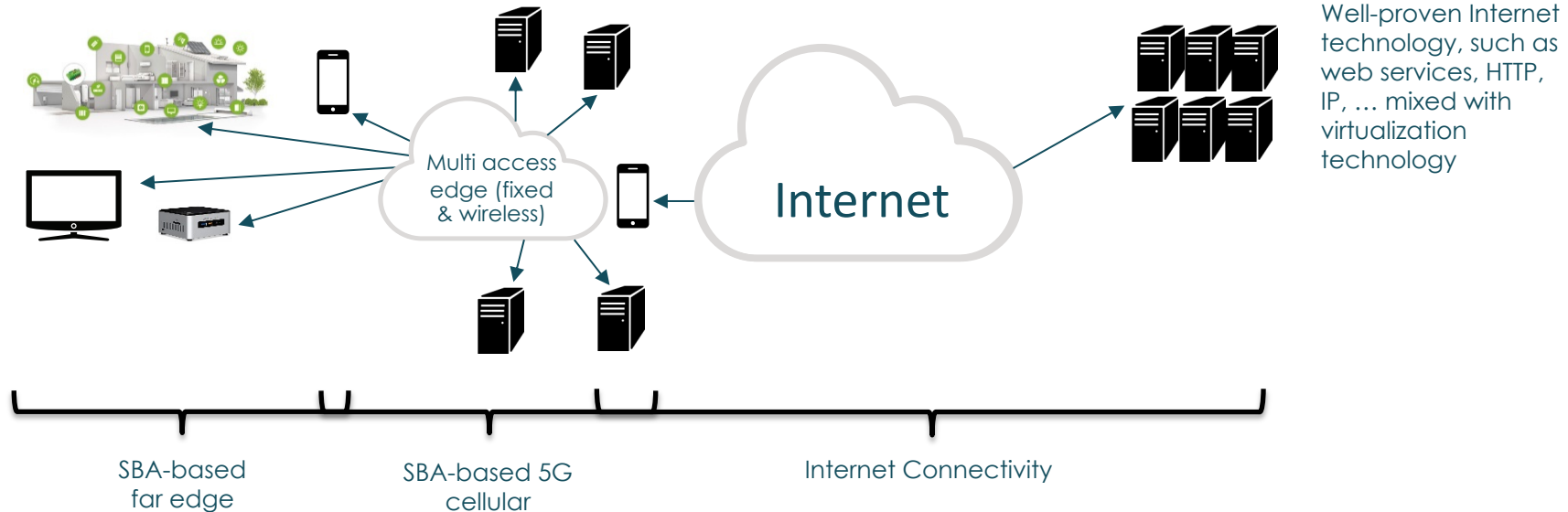
## ROBUST, SECURE

- **Net-level indirection**
  - indirection of service requests at the network level allowing error response to redirect the original request to another alternative surrogate
  - nesting operations leads to a net-level 'search' among all available surrogate instances
- **Less chance of insecure direct object references**
  - CDNs morph into surrogate service endpoints with the potential to hold the necessary security context when serving the desired content
- **Secure end-to-end access to content**
  - CDNs deployed as properly secured endpoints with the necessary certificate sharing between content
  - Securing content delivery according to the originally intended end user facing contract -more secure for provider and consumer.

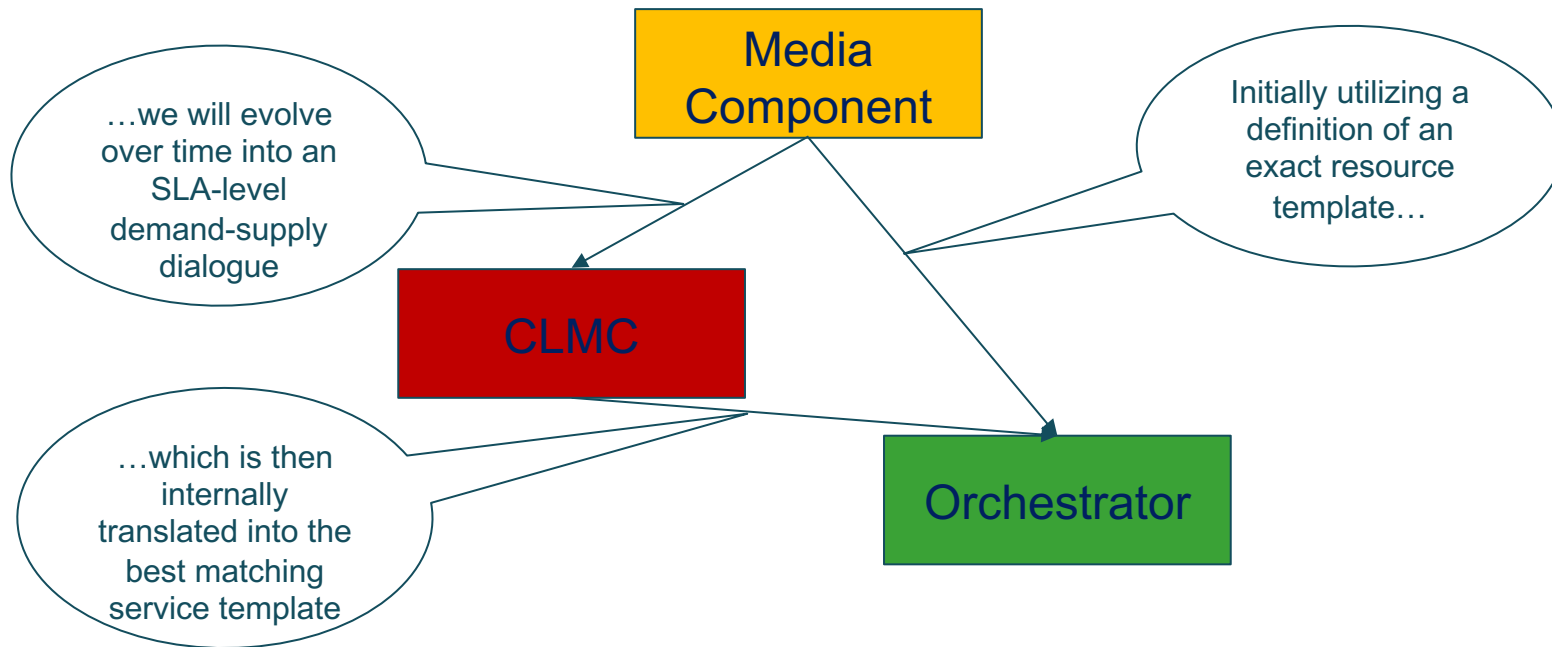
# Micro-Services From Far-Edge to Distant Cloud

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

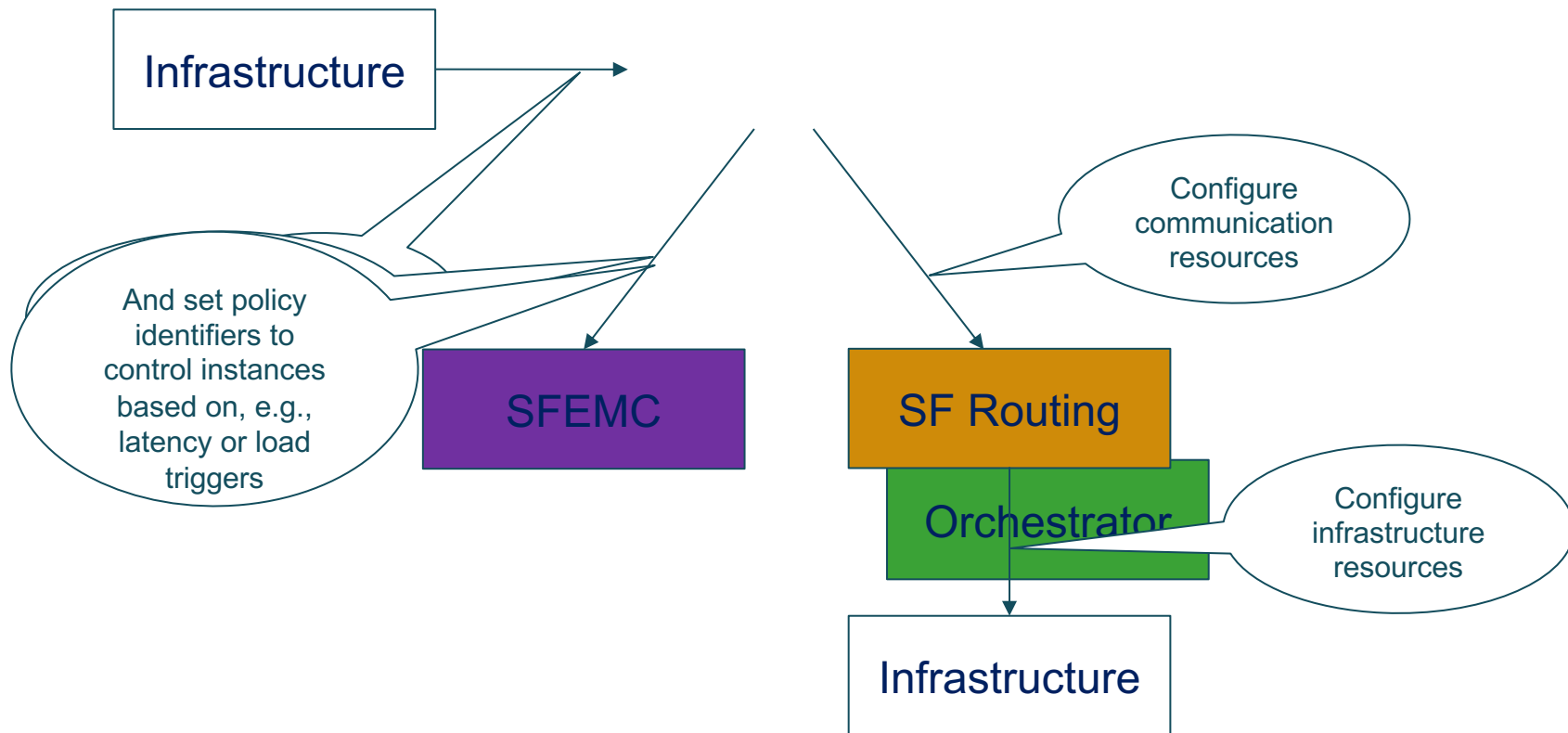
Service-based architecture across all edge and the Internet



# An Increasingly Rich Dialogue between Experimenter & Platform



# Supported by Flexible Management and Control



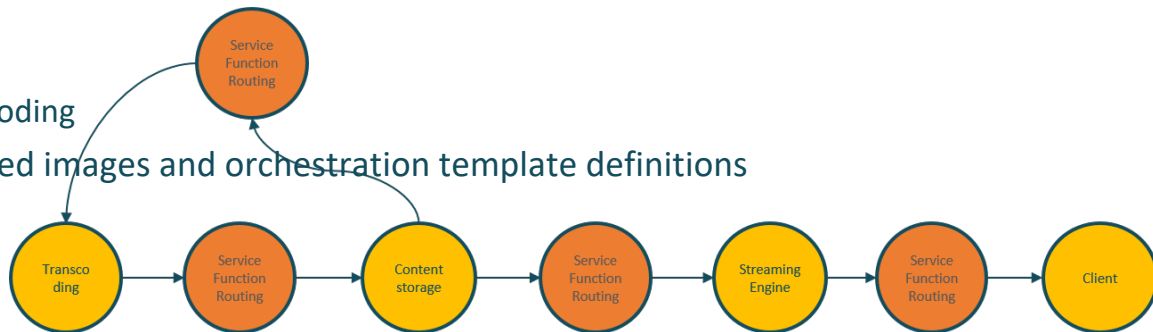
# FLAME Foundational Media Services

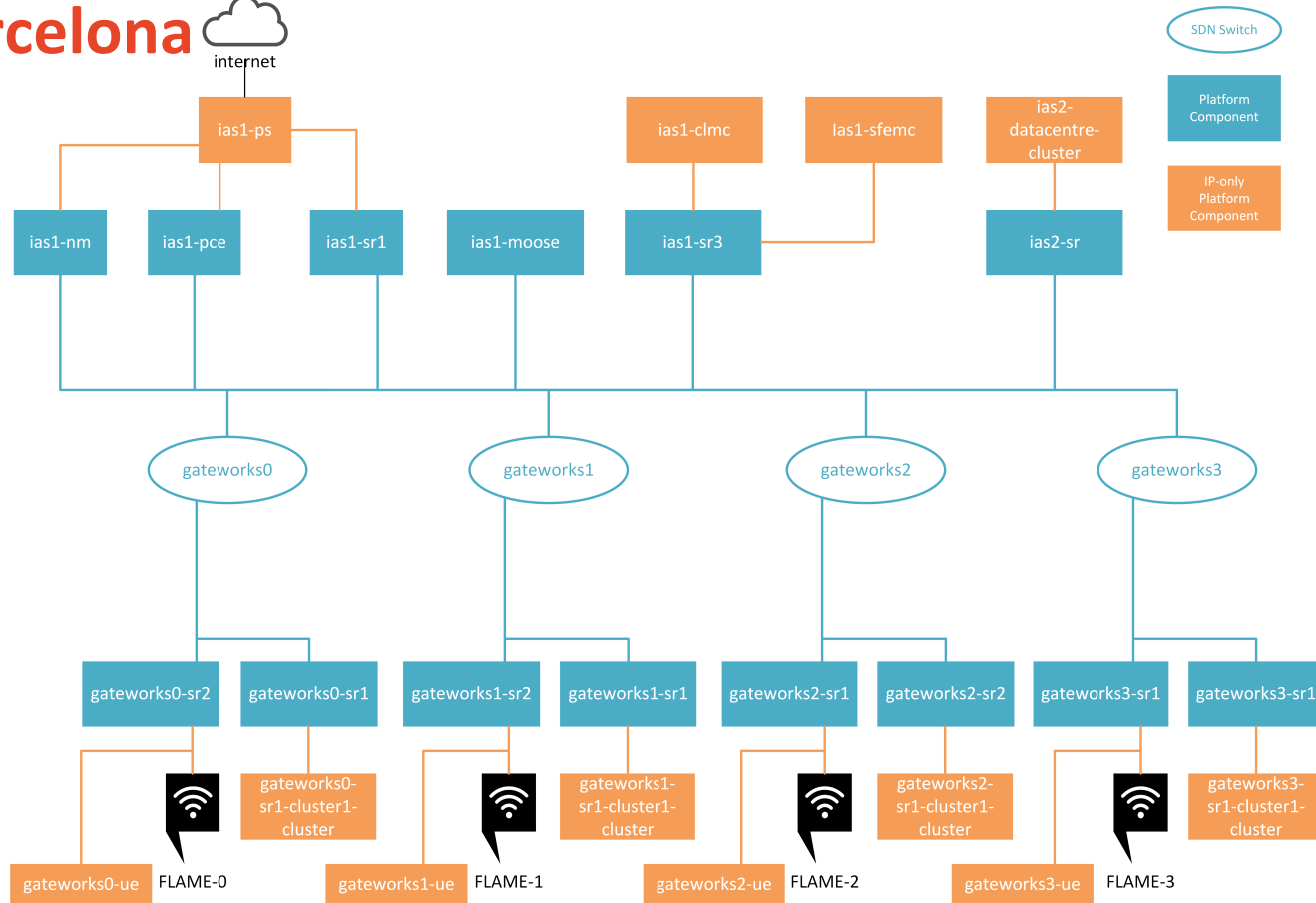
- **Role of Foundational Media Services**

- *Support experiments* through providing basic building blocks
- *Take advantage* of FLAME platform capabilities, e.g.,
  - Multicast, e.g., replication
  - Indirection, e.g., replication
  - Chaining, e.g., flexible transcoding
- Provided as FLAME-instrumented images and orchestration template definitions

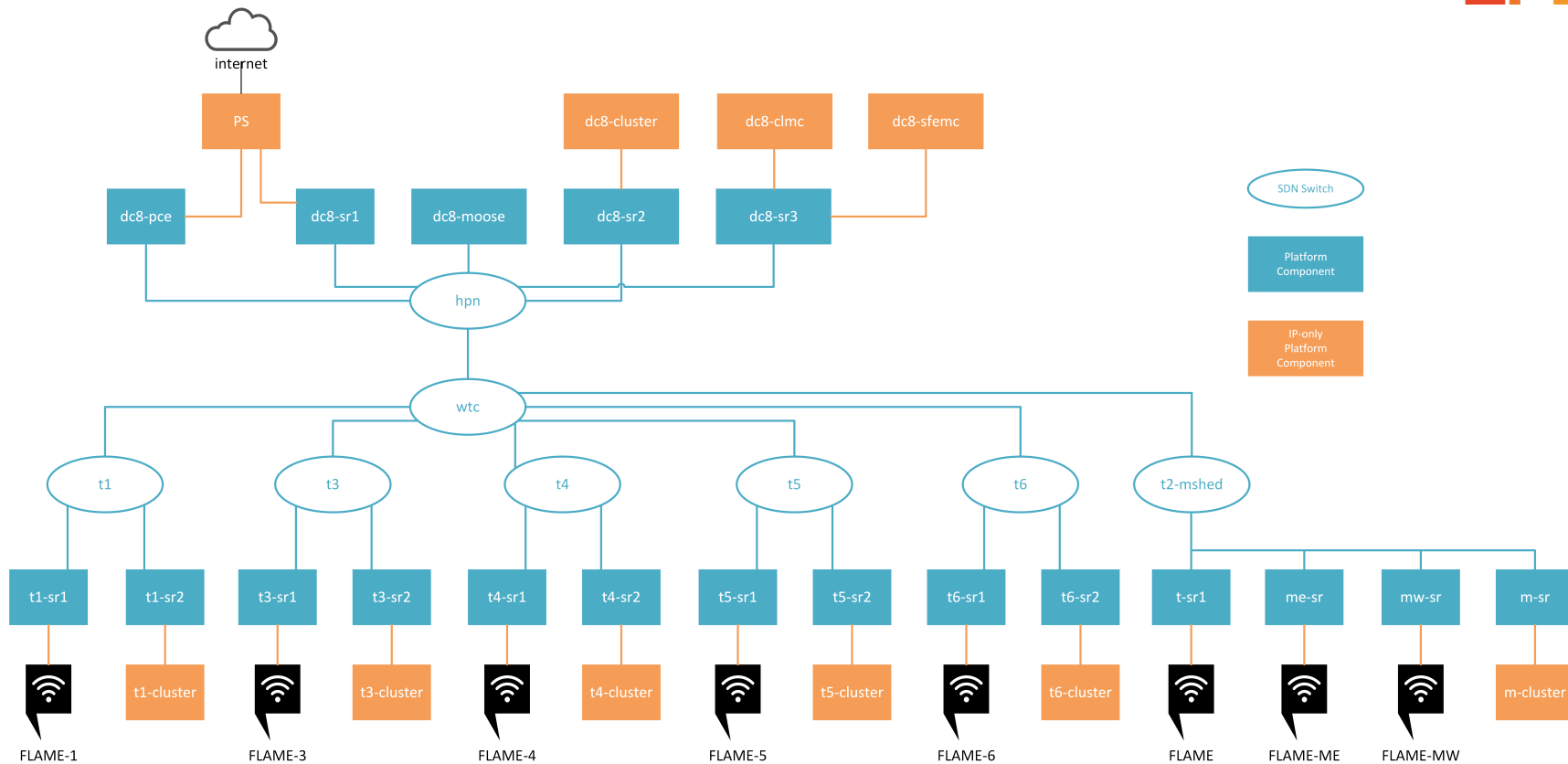
- **Current offering**

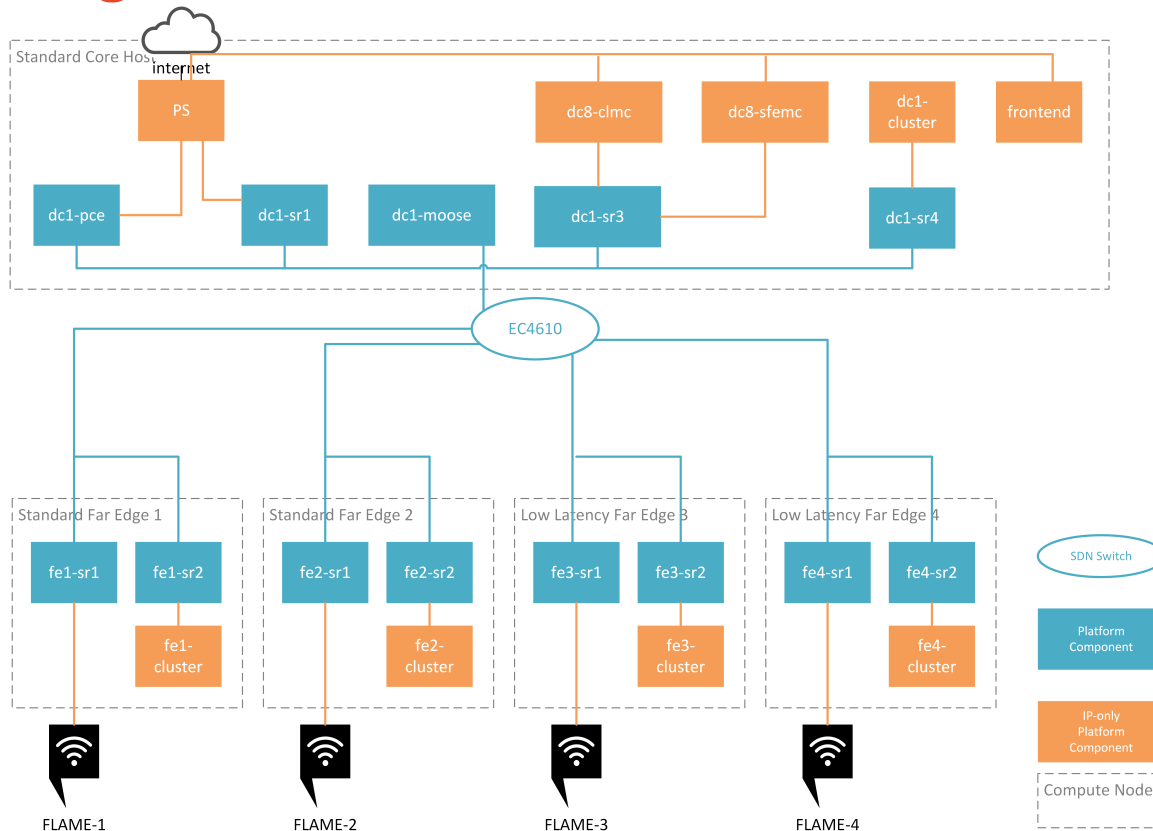
- Metadata database
- VoD and live streaming
- Content conditioning, including transcoding/transrating
- Content ingest and storage
- Media quality analysis
- Virtual CDN



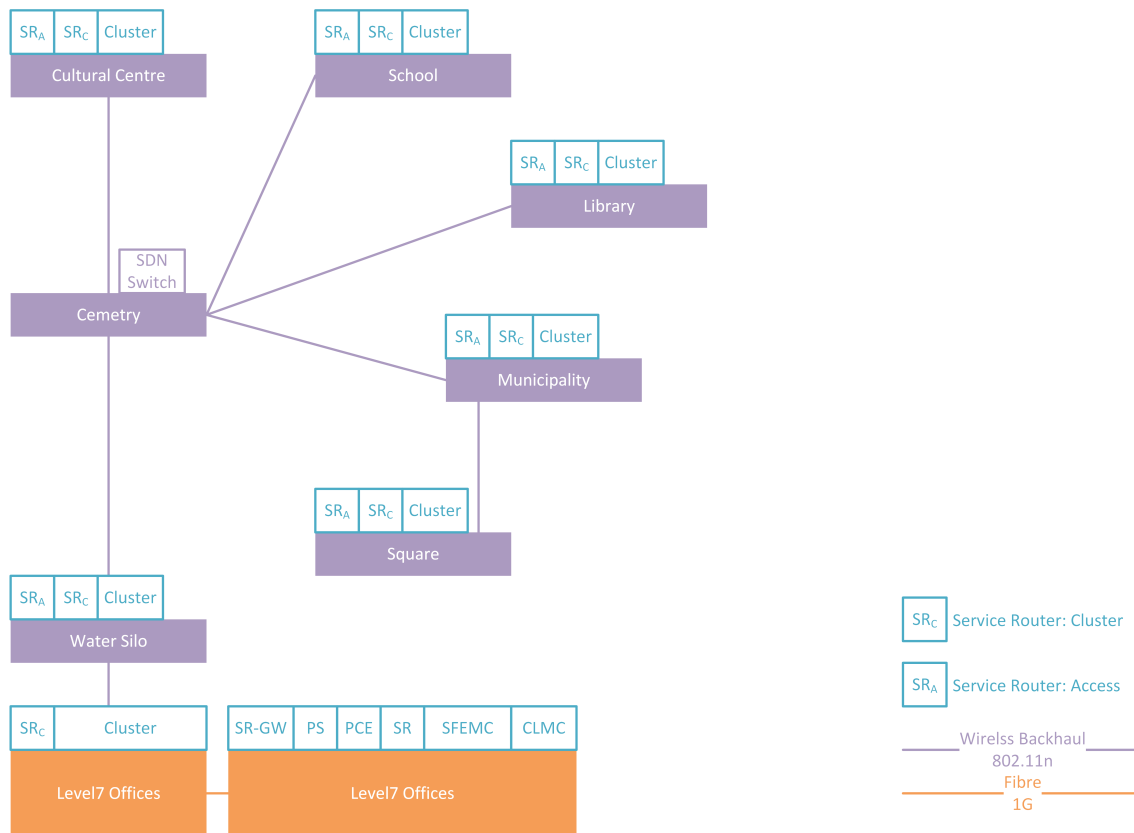








# Level7: Sicily





# FLAME



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