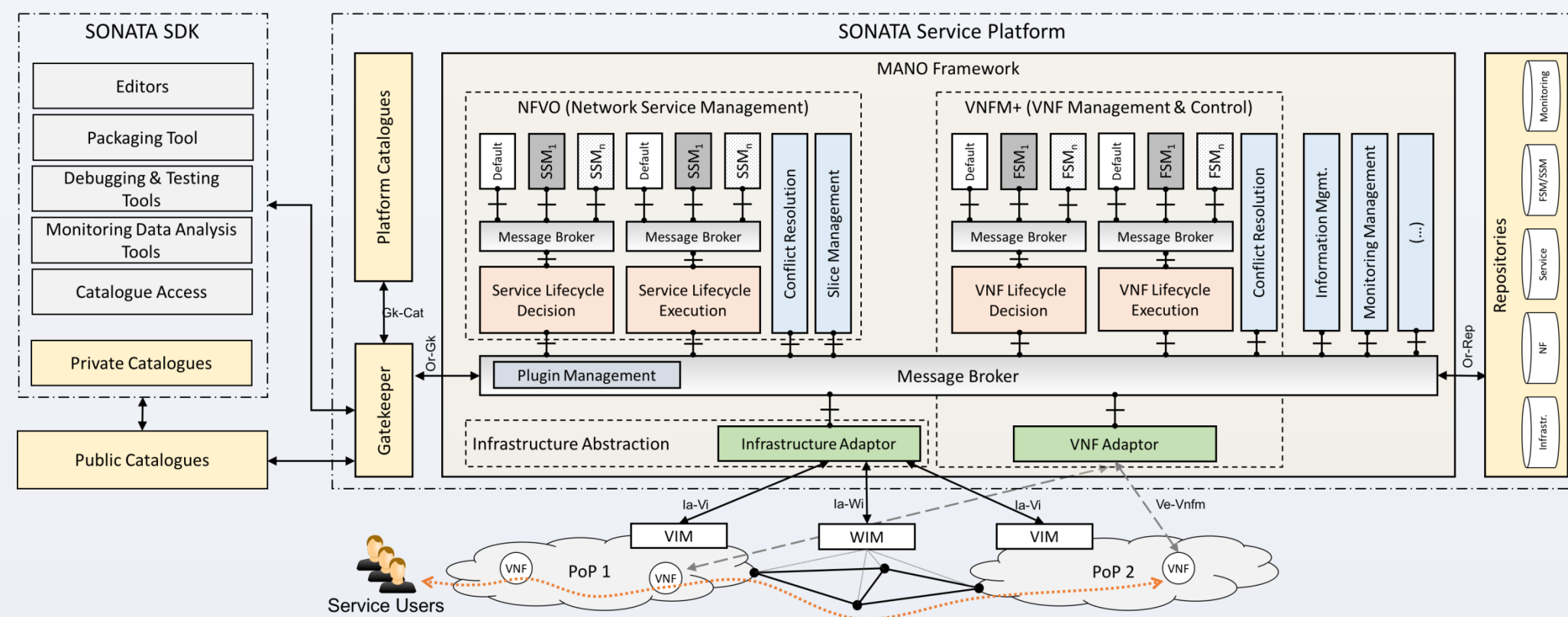


# Service Orchestration leveraging software networks and DevOps in 5G

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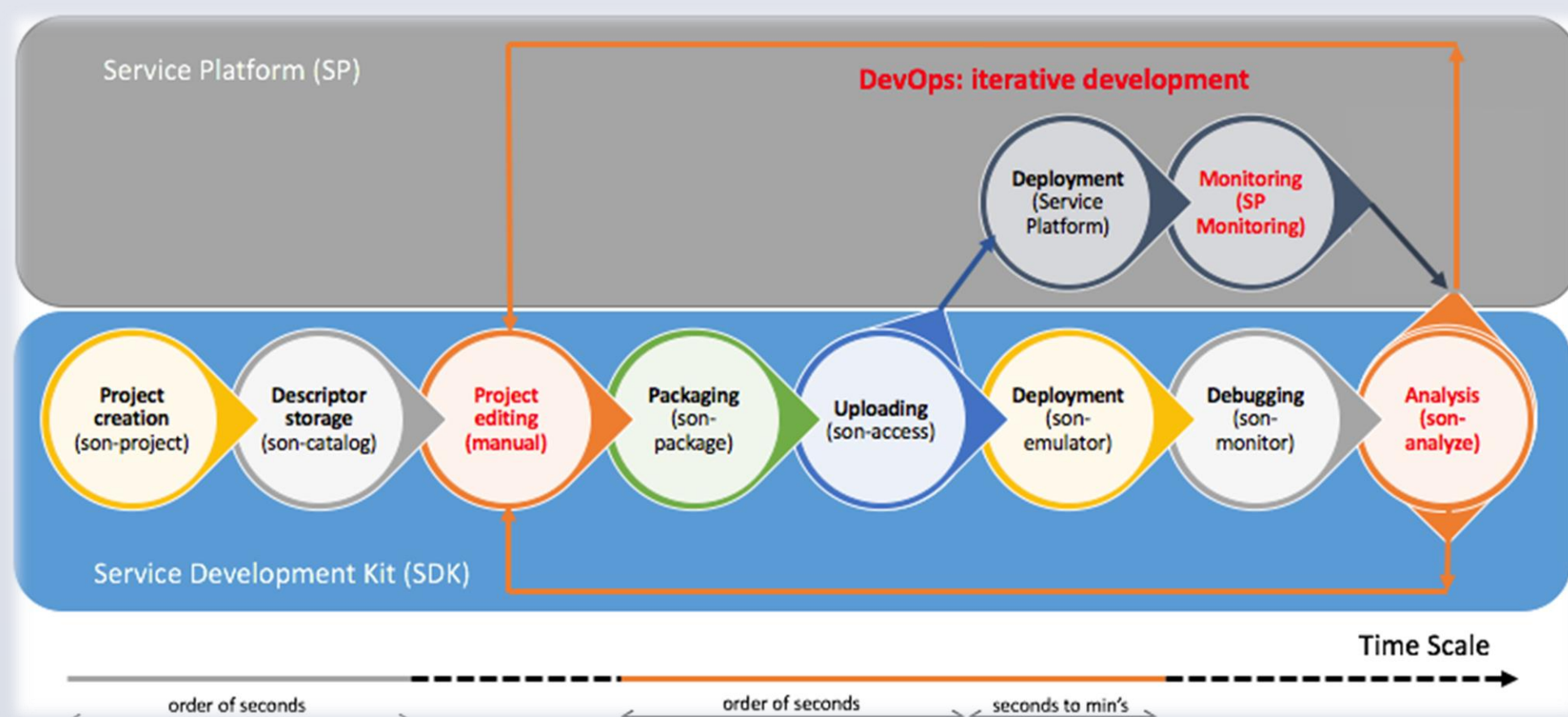


## SONATA Architecture



- **Gatekeeper:** access rights – package conformance
- **Catalogues:** stores and manages package files, their metadata as well as NS and VNF metadata
- **MANO Framework:** Orchestrator, Service Management and the VNFM are modularized via plugins i.e Service Specific Manager (SSM) and Function Specific Manager (FSM)
- **Infrastructure Abstraction:** hides the complexity and diversity of having to deal with multiple VIMs and WIMs;
- **Repositories:** stores and manages service and function records, resulting from the instantiation, update and termination processes;
- **Monitoring:** collects (via monitoring probes), stores and provides monitoring data for the services and functions instances.

## Service Workflow



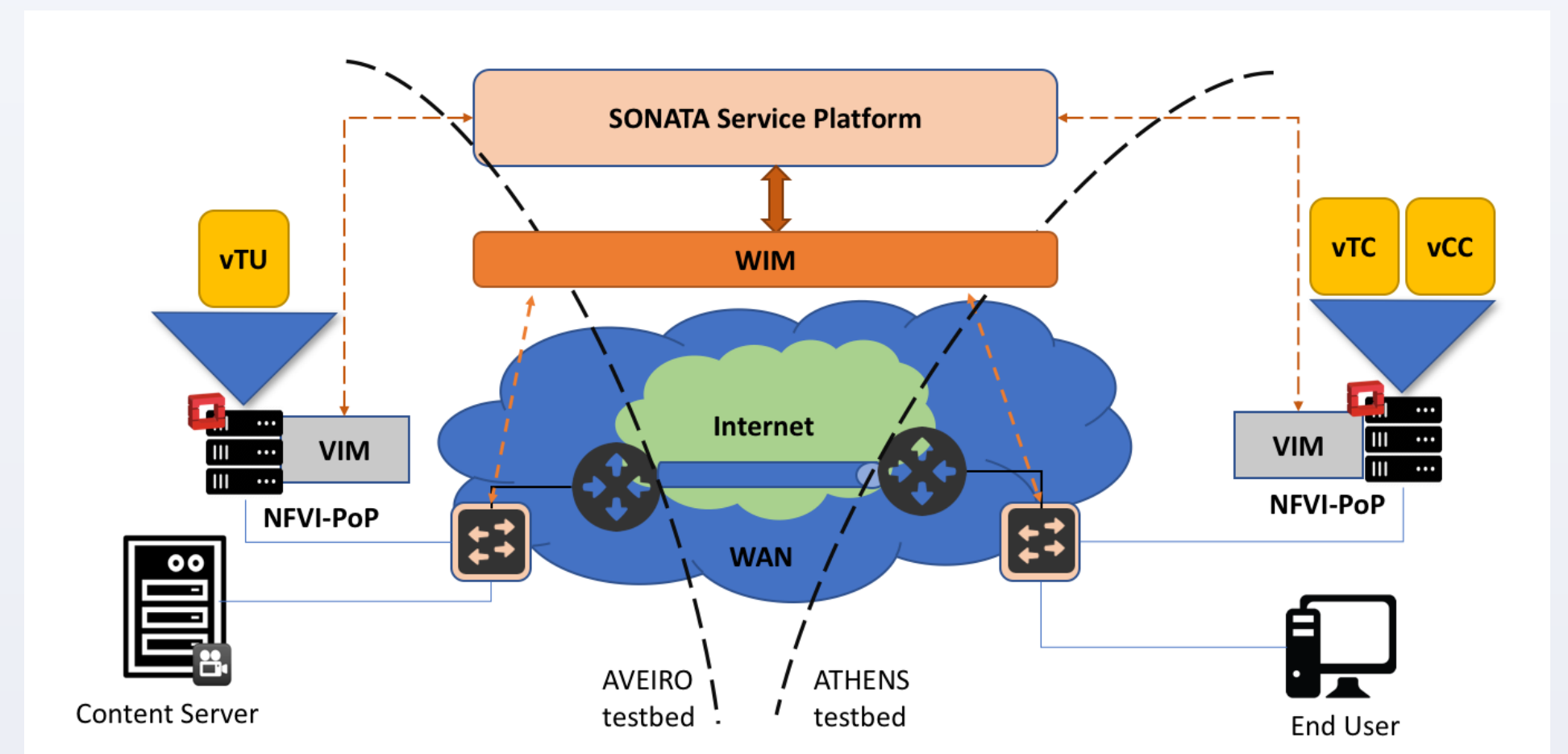
## SONATA Pilots

- **Content Delivery Network (CDN)** - targeted to Service Providers that want to deploy a vCDN for their end-users.
- **Personal Security Application (PSA)** – targeted to end-users that would like a personalized security service.
- **Hierarchical Service Providers (HSP)** – targeted to highlight recursive operation between two instances of SONATA's platform.

## The demonstration scenarios

- **SCENARIO 1 - NETWORK SERVICE DEPLOYMENT**
- **SCENARIO 2 – DYNAMIC NETWORK SERVICE RECONFIGURATION**
  - AUTOMATIC RECONFIGURATION OF NS BASED ON MONITORING AND SSM PLUGINS
- **SCENARIO 3 - QoE ENHANCEMENT**
  - SCENARIO SPECIFIC TO VCDN TESTBED

## DEMONSTRATOR Setup



- Two NFVI-PoPs based on Openstack
- WAN network controlled by WIM
- Three VNFs
  - vTU: transcoding unit for different UE devices support
  - vCC: the content caching VNF located close to the End Users
  - vTC: traffic classifier and NS traffic steering VNF
- SSM and FSM for the lifecycle management of the components

## The demonstration storyboard

- **SDK Cycle**
  - DEVELOPER STARTS A WORKSPACE FOR THE DEVELOPMENT/COMPOSITION OF A NEW NS (SON-PROJECT)
  - DESCRIPTOR CREATION FOR THE NS COMPONENTS (SON-CATALOGUE)
  - CREATION OF THE NS SON-PACKAGE (INCLUDING ALL DESCRIPTORS AND VNF IMAGES PLUS SSM/FSM PLUGINS)
  - VALIDATION OF THE NS PACKAGE (SON-VALIDATE)
  - ON-BOARDING OF PACKAGE TO THE SERVICE PLATFORM (SON-ACCESS)
- **Service Platform Cycle**
  - CONFIGURATION OF THE NS INSTANCE THROUGH SONATA BSS/OSS GUI
  - NETWORK ATTACHMENT POINTS (NAP) DEFINITION
  - END-POINT DEFINITION
  - DEPLOYMENT OF THE NS ONTO THE INFRASTRUCTURE.
  - MONITORING SYSTEM VIEW OF THE DEPLOYMENT PHASES
  - NFVI-PoP VIEW OF THE DEPLOYMENT PHASES
- **vCDN Service Cycle**
  - END-USER CONTENT CONSUMPTION (NO vTU CASE)
  - vTC FORWARDS ALL THE END-USER REQUESTS TO THE vCC
  - END-USER CONTENT CONSUMPTION (vTU CASE)
  - vTC RECOGNIZES THE END-USER REQUEST FOR TRANSCODIFICATION FROM THE UE DEVICE AND FORWARDS THE REQUEST TO THE vTU

## CONTACT

