

ACINO – Application-Centric IP/optical Network Orchestration

European Commission H2020 – Grant agreement no: 645127, ACINO Project

Research and Innovation Action under 2014.ICT6.a Optical & Wireless Networks call

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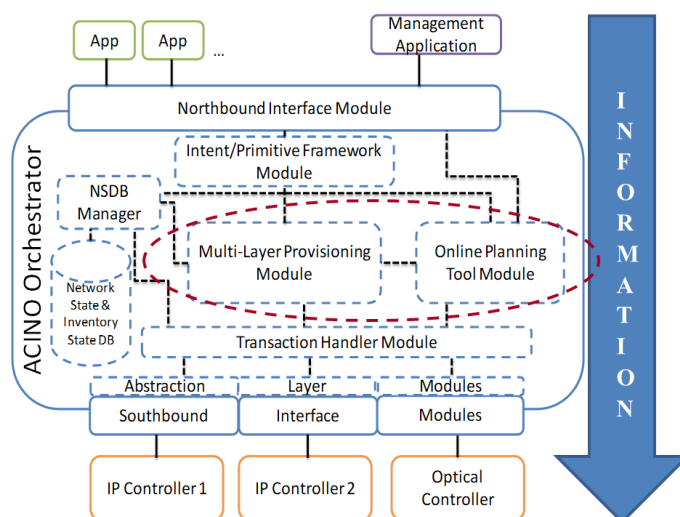
Total budget: 2.887.055 € AIT's budget: 350.625 €

Project Summary

ACINO project (<http://www.acino.eu>) proposes the application-centric concept, where the traffic of each application is directly mapped into the optical layer, thus avoiding the IP grooming process and providing a high-performance service that matches the applications' requirements. Traditionally, IP/optical networks operate by aggregating traffic from many application traffic flows before sending them through the network. Currently, this approach assists in the reduction of the operational costs. However, with the introduction of cloud and primarily 5G services, future network applications are expected to exhibit high diversity in terms of their requirements (typically related with bandwidth, latency, availability and security).

To this end, ACINO develops a Software-Defined-Network-based (SDN) orchestrator capable of managing the transport networks operating in the core and backbone segments of telecommunication networks. The key features and development areas of this orchestrator are: a) an application centric northbound interface that translates efficiently the requests from different types of user and management applications into specific service requirements according to the abstracted network resources and capabilities and b) an intelligent application aware resource provisioning and optimization engine able to allocate resources dynamically

(i.e. online) between the IP and Optical layers in a way that the overall required network resources are minimized while the requested service requirements from different applications are met.



AIT's Role

AIT is leading the development activities for the Multi-layer provisioning and optimization modules and assists in the integration of the modules with the ONOS based SDN controller. Additionally, AIT is leading the techno-economic evaluation studies.

Project partners

CREATE-NET (Coordinator), AIT, Telefonica, ADVA, Sedona Systems, ACREO

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