Multi-Access Edge Computing
Taking mobile video on at the edge and caching in

Figure 1. Cisco CUPS with the Internet APN deployed at the cell site along with caching

Multi-Access Edge Computing (MEC) benefits
- A path to 5G
- New vertical applications
- Secure edge
- Network efficiency
- Better latency
- Mobile Backhaul (MBH) savings
Cisco’s solution to Multi-Access Edge Computing (MEC)

Cisco’s current response to MEC relies on Virtual Machines (VM). In the specific case of the decomposed mobile core, a cloud-native version using Kubernetes will ship soon at the end of 2018. The current Cisco® MEC platform has been piloted and deployed as a set of x86 servers. It will be interconnected inside the Point Of Presence (POP) via a traditional data center model, using a spine/leaf architecture. The number of leaf and spine switches in each POP will depend on the number of required servers, considering the workload distribution.

This spine/leaf architecture, connecting the MEC to the access network (providing the services) and to the backbone (regional data centers), will be based on segment routing (a layer-3 solution) in order to provide a unified fabric solution.

The Cisco® mobile core Control User Plane Separation (CUPS) implementation, based on Cisco Ultra, makes it possible for the user plane to support a full complement of in-line services such as Application Detection and Control (ADC), Enhanced Charging Service (ECS), Network Address Translation (NAT), firewall, and more.

The network infrastructure is completed with a Software-Defined Networking (SDN) and service automation control layer. It includes Cisco technologies such as Segment Routing Path Computation Element (SR-PCE), WAN Automation Engine (WAE), Network Services Orchestrator (NSO), and Evolved Programmable Network Manager with their respective evolution paths.

The deployment of MEC can help enable new services that require high speed and low latency. It helps enable deployment of video caching at the MEC location, enabling better video Quality of Experience (QoE) for viewers and reduces OpEx costs of the backhaul since the content will be local.

“Reliance Jio is always about innovation and disruption, and multi-access edge computing enables a new way to deliver a broad range of media and mission critical services with enhanced customer experience with improved network efficiency”

Mathew Oommen
President, Reliance Jio
Learn more
Our MEC roadmap is well underway and further development is ongoing with customers, who are at various stages of testing or deployment.

Cisco is leading the disruption in the industry with our technology innovations in systems, silicon, optics, and security, and our expertise in mass-scale networking, automation, optical, cable access, video, and mobility. Together with our portfolio of professional services, we can enable service providers and media and web companies to reduce cost and complexity, help secure their networks, and grow revenue.

For more information on Cisco Multi-Access Edge Computing and CUPS, visit: [www.cisco.com/go/5G](http://www.cisco.com/go/5G)

Figure 2. System architecture view of the mobile edge host