

Cisco Mobility Services User Plane



Figure 1. Achieve an optimized outcome with any deployment

Benefits

- **Superlative throughput**, providing better quality of experience to users, with an optimal footprint.
- **Optimized performance per use case:** Consumer, enterprise, fixed wireless access, or IoT.
- **Simplified endpoint management** via a multiserver, distributed cloud-native user plane acting as a single entity.
- **Flexibility in deployment:** The user plane can vary from a micro entity to a multiserver one.
- **Flexibility in IP address management:** Customers can assign and manage IP addresses via the user plane for select use cases instead of relying on the control plane.

Deliver a superior experience with a high-performance, cloud-native user plane

Today, the demand for enhanced network capacity is driven by a growing customer base and the proliferation of data-intensive applications accessed through an advanced device ecosystem. As service providers strive to meet these demands, the need for a robust and flexible user plane function (UPF) becomes paramount.

The Cisco® Mobility Services Gateway empowers communications service providers (CSPs) to deploy 5G services alongside their existing 2G, 3G, and 4G offerings, providing a seamless, incremental path to 5G Standalone (SA) and beyond while maintaining backward compatibility. At the heart of the Mobility Services Gateway is the Mobility Services User Plane—a microservices-based architecture. Unlike traditional VM-based models, this UPF can operate as a distributed instance, bringing user plane deployments closer to the end user, where they enhance resilience and flexibility, reduce latency, and improve overall service quality.

The integration of hardware acceleration through data processing units (DPUs) enhances network performance by offloading intensive processing tasks from the CPU, resulting in reduced latency and higher throughput.

This combination of cutting-edge technologies positions Cisco's Mobility Services User Plane as a critical enabler for service providers seeking to deliver exceptional user experiences while maintaining operational efficiency.

Maximize network performance and flexibility with the Mobility Services User Plane

Cisco is committed to being a bridge connecting people, places, and things. The Mobility Services User Plane offers unparalleled flexibility through its ability to configure resources according to specific use cases.

Whether it's allocating more cores to Vector Packet Processing (VPP) for fixed wireless access ("places"), optimizing for consumer 5G ("people"), or scaling session managers for IoT applications ("things"), the user plane can assign resources according to different personas, adapting to diverse network demands and maximizing performance and efficiency.

By leveraging hardware acceleration via DPUs, the user plane can further offload computationally intensive tasks such as packet processing and encryption, thereby enhancing overall system performance by freeing up CPU resources for other critical operations. Implementing it as a distributed instance simplifies the operational complexity of managing large-scale deployments.

By leveraging these innovations, service providers can deliver superior user experiences and gain a competitive edge in the communications industry.

Position yourself for the future of mobility

As pressure builds to cater to incessant growth in network traffic, the need for a high-performing user plane with an optimal footprint is critical. Meet current and future network demands and gain a competitive edge with Cisco's Mobility Services User Plane.

Learn more

If you're seeking a gateway that supports all network generations and streamlines your operations, or you need to understand the licensing details for Cisco's Mobility Services Gateway and User Plane, please reach out to your Cisco Sales representative or account team for a demo.

