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Specialized Services, Network Management and 5G

The technologies and business models underpinning the networks of today and tomorrow are designed, developed and managed with an eye on innovation and the best end-user experience. Any regulatory measures to guarantee the open Internet should not result in interventionist and prescriptive public policy responses, which inevitably would impose rules that are not future proof. Being over-prescriptive on network traffic management as well as restricting the offering and development of specialized services in Europe would harm innovation and preclude important new developments like the internet of things and industrial internet, and new generations of communication and collaboration services, which will be key drivers for future 5G networks. The expected high requirements for 5G services, like ultra low latency (high responsiveness), will make the need for such network management and specialized services even more pronounced in order to ensure resource efficiency and lower cost while maintaining predictable quality of experience according to expectations.

Traffic management: is a vital means to provide efficient, effective and safe internet services as well as to enable specialized services to meet different needs and types of use with varying and flexible quality levels. Traffic management is used already today in IP networks carrying a mix of traffic types, including Internet traffic. Traffic management measures are necessary in particular to:

- Prioritize time-critical applications (voice, video, emergency notification)
- Preserve the robustness, integrity and security of the network, services provided via this network, and the end-users' devices.
- Provide predictability, expected experience (reliability, trust, safety, tangible results...) and service level agreements with providers (availability, end-to-end support...).
- Accommodate new network management requirements driven by the new developments of machine to machine communications also known as Internet of things or Industry 4.0 with its own demands and requirements for specialized services and network management.
- Preventing congestion and optimizing traffic management are essential on a mobile network and its importance will only grow with the industry moving towards 5G. High reliability and low latency will be key drivers for 5G services and can only be achieved with proper network management tools.

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The development of **specialized services** is as important as the Internet Access Service. An Internet access service is unpredictable in terms of time responsiveness and bitrates (this is the definition of best effort) whereas specialized services offer:

- predictability (time responsiveness (latency), bitrates...),
- guaranteed user experience (reliability, trust, safety, benefits...) and
- end-to-end service level agreements (not only on the service itself but also on its delivery and access from where it is hosted).

Allowing a flexible and dynamic traffic management approach and efficient coexistence of Internet Access Service and Specialized services will ensure resource efficiency and allow the service provider actors to innovate effectively for new service offerings, benefiting both European industry and society as a whole.

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