

عنوان مقاله:

Network Slicing on 3GPP 5G System Architecture; An End to End Approach

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خلاصه مقاله:

New emerging industries, such as vertical markets, need diverse networking requirements that the next generation mobile networks have to support effectively. Network slicing is the basic solution to meet the diverse requirements of various services over a common network infrastructure. Different network slicing architectures have been proposed; however, to the best of our knowledge, there is no unified architecture to cover all aspects of technology. In this paper, we propose a complete network slicing architecture based on 3GPP 5G system that addresses a unified end-to-end approach. We show how this architecture can create and operate various slices in the core and radio access sections using SDN controllers, virtualization, NFV MANO, and 3GPP management functions. We do compare our proposed one with some famous network-slicing architectures. The Comparison Results show that our proposed architecture is complete and covers all the aspects of network slicing. It uses NFV management and orchestration capabilities and SDN controllers while being compatible with 3GPP Service-Based architecture. It also provides life cycle management of network slices in both creation and operation phases in both core and radio access domains of the 5G network. In addition, we have included a functional RAN layer split to lay the corresponding layers in centralized or distributed units according to the requirements of each eMBB, mMTC, or URLLC slice.

کلمات کلیدی:

Network Slicing, 5G, SDN, NFV, Management and Orchestration, System Architecture

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