عنوان مقاله:

A Novel Adaptive Router Placement Scheme in Hybrid Wireless Optical Access Network

محل انتشار:

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خلاصه مقاله:

A typical wireless optical network takes advantage of passive optical network (PON) architecture in the back-end for last-mile broad-band connectivity combined with wireless mesh network at the front-end to provide high-quality cost-effective Internet access to end users. Wireless gateway routers collect upstream traffic from enduser devices within their transmission range and route them toward a nearby optical network unit (ONU) station and vice versa in the downstream direction. A major objectives of planning wireless optical networks is to place ONUs and wireless routers (WRs) in such a way to fully cover all end-users with minimum deployment cost while ensuring some quality metrics, such as delay or throughput. Computational complexity of mathematical formulations presented in previous works, restrains from scaling the network size and user population in accordance with the realistic circumstances. In this paper, we address this issue by introducing a novel adaptive segmentation scheme to offload the problem complexity without sacrificing the optimality of solution. Extensive numerical simulations verified the applicability of our approach .to large-scale networks

کلمات کلیدی:

FiWi network, WOBAN, Router placement