

An efficient & Cost-Effective EPON-Based Next Generation 5G Mobile Backhaul RAN Architecture

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Abstract— This study proposes a novel, efficient and cost-effective Passive Optical Network (PON) based next-generation mobile backhaul RAN architecture that enables the redistribution of some of the intelligence currently centralized in the Mobile Packet Core (MPC) platform out into the access nodes of the RAN. Specifically, this work proposes a fully distributed ring-based EPON architecture that enables the support of a converged PON-5G option 3X access networking transport infrastructure to seamlessly backhaul both mobile and wireline multimedia traffic and services.

Keywords- 5G, EPON, LTE, Option 3x, PON, TDM



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