

An Architecture to offer Cloud-Based Radio Access Network as a Service

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Abstract:

This paper addresses the novel notion of offering a radio access network as a service. Its components may be instantiated on general purpose platforms with pooled resources (both radio and hardware ones) dimensioned on-demand, elastically and following the pay-per-use principle. A novel architecture is proposed that supports this concept. The architecture's success is in its modularity, well-defined functional elements and clean separation between operational and control functions. It enables operators to upgrade their network as well as quickly deploy and adapt resources to demand. Also, new players may easily enter the market, permitting a virtual network operator to provide connectivity to its users.