Bandwidth Factory: LAST MILE-AS-A-SERVICE

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Introduction:-

There is a saying that you cannot have enough of two things- one is very obvious the Money but second , a bit surprising , is the Bandwidth. It is a fact that in this digital age Bandwidth supply is always short of its ever- increasing demand. Surprisingly, reason for this mismatch is not the spectrum shortage or technological limitation but the old age problem of Last mile access, which being a natural monopoly has always been staring in the face of struggling service providers to meet the demand of ever- aspiring bandwidth-hungry digital generations. The concept of Bandwidth-Factory throws open an innovative idea wherein Last Mile access infrastructure is made available as a managed service to enable the service providers to home-deliver the as-demanded bandwidth at the door step of their customer in timely, cost- effective and efficient manner.

Next Generation Access (NGA) - High Speed Broadband Connectivity to Door-steps:

NGA is basically providing the high speed broadband connectivity to homes through IP- based technologies. Two proven technologies which can meet this requirement are GPON (FTTH) and LTE. Both these technologies have their niche markets to serve in a complementary manner. While LTE is meant for busy citizens who need very high speed connectivity on the move, FTTH is meant to take a very high speed access to buildings and homes in a fixed environment. Though both promise to deliver up to 100Mbps to each customer, LTE being a Cellular technology suffers from the sharing of bandwidth among the active neighbours and in practice throughput for an active user in a congested area will be much below the peak rating. Also due to high spectrum cost, charges per MB download are likely to be very high. On the other hand FTTH, making use of

passive infrastructure and a single fiber in bi-directional mode can deliver the peak rating for all the time irrespective of neighbourhood behaviour in a cost effective manner.

Challenges:

While high cost and shortage of Spectrum is a big challenge for LTE proliferation, the hurdle for FTTH has been the Cumbersome and expensive ROW as well as Regulatory ambiguety for Active Infrastructure sharing. Both the NGA technologies being very high Capex- intensive, it is not possible for a single owner to exploit their full potential without the infrastructure being shared by the multiple service providers. Also the access infrastructures are inherentally the natural-monopolies and their duplication by multiple Service providers in same area is never economically viable. Hence the policy makers and regulators have to help through removing bottlenecks towards ROW and ambigueties for active Infrastructure sharing.

Last Mile Access-as-a-Service:

To get around the high capex and cumbersome nature of last mile access infrastructure creation, there is a need for a new breed of Independent Infrastructure Providers, who have the vision, expertise and capex and are willing to create and share the infrastructure in a neutral and open manner among the service providers to enable them to provide high speed connectivity to the door-steps of their needy customers in a timely, efficient, reliable and cost effective manner. This is what I mean by the concept of “Bandwidth Factory”.