3G, the solution as data usage doubles annually

The proliferation of 3G signal throughout Southern Africa has enabled many users to not only make mobile phone calls but also to access the Internet where this was not previously possible. By circumventing the challenge of last mile connectivity, 3G has become the connection option of choice in a lot of instances.

This has led to massive growth of data, with all of the major cellular operators competing in a bandwidth price war to offer more data for less money. This has further spurred growth in the use of 3G for data purposes, but has also led to a problem - mobile operators are becoming over-subscribed and can no longer handle the volumes of traffic.

Side by side with the growth in mobile subscribers is an increased appetite for data, driven by ever growing numbers of smart, connected devices, improved infrastructure bringing in more international bandwidth and decreasing data costs. The upshot of this is that the uptake of 3G in Southern Africa has been phenomenal, thanks to the relatively low cost of entry for 3G data in combination with the challenges to ADSL presented by copper cable theft and last mile connectivity. This has led to pressure on the cellular operators, since their infrastructure is often unable to cope with volumes of data and voice traffic.

More strain on overloaded infrastructure

Data usage on average doubles every year and since data is only likely to become cheaper and the number of users adopting smart phones is set to grow as these devices become increasingly affordable, the pressure is not going to let up. In fact, over-subscription will become more and more of a problem unless measures are taken to alleviate the exponential growth of data traffic on operator towers, especially in light of the fact that 4G LTE networks are destined to land this year, running off the same towers as 3G and placing more strain on already overloaded infrastructure. This will lead to decreased customer service, degrading quality of both voice and data capabilities, and general frustration as users are unable to perform the tasks their gadgets and smartphones were designed for.

This degradation in service is even more prevalent in areas where large numbers of subscribers gather, including university campuses, shopping malls, office parks, and events venues. Towers in the areas are not able to handle traffic volumes, resulting in dropped calls and failed data requests. Technology however has the answer for relieving this congestion in high volume areas - 3G offload to WiFi, which essentially moves subscribers seamlessly off 3G networks and onto local WiFi networks once they are within range. WiFi works particularly well in these types of enclosed spaces, and in fact offers better indoor coverage than 3G. WiFi infrastructure is cheaper to install than 3G, the data traffic also costs less per megabyte, and speeds are often faster, offering a better data experience.

All parties will benefit from 3G

There are a number of business models that can be run with 3G offload. The first would be for users to purchase data in these WiFi offload areas. Both network operators and facilities managers at congested locations could install the infrastructure and then collect the revenue generated by the data traffic sales. Another way of operating however is for the malls, campuses and so on to run and operate the WiFi network, offering data for free but then selling advertising space and sponsorship in order to generate necessary revenue.

For the service provider, 3G offload offers cost reduction, freeing up of congested traffic, a better customer experience, and the ability to bleed the existing GSM network infrastructure for a longer period of time. It also saves on frequencies, of which there are only a limited number. For shopping centres and other facilities, 3G offload offers revenue generation opportunities, advertising space and marketing intelligence with the potential for additional online services to be added to improve the customer experience. For the end user, 3G offload delivers a seamless experience with better browsing due to less congestion. It also offers another choice of connectivity and cheaper roaming internationally.

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