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Wither Municipal WiFi

One of the most interesting (and sometimes confusing) aspects of following the wireless broadband industry is the plethora of competing and emerging technologies. Whether it's a flavor of WiMax (choose pre/proto, fixed, nomadic or mobile, and season to taste), cellular 2.5G or 3G, WiFi or its more expansive relative mesh WiFi, there are a lot of ways to get bits back and forth to that Point Of Presence.

In all these approaches, you've got to start out with a user, and make that first hop into the service provider's infrastructure. Most of us understand that when we're on a cellular call, it's going over one of those oh so attractive towers we don't want in our neighborhood. In the local Starbucks, it's going over a WiFi router hidden behind the cappuccino machine. In the case of mesh WiFi networks, the range of the transmitter infrastructure is short enough that you need a lot of them – and more often than not, that pushes service providers to deploy the network in public rights of way, typically on streetlamp posts - making most mesh WiFi municipal WiFi as well. The typical network topology is shown below:

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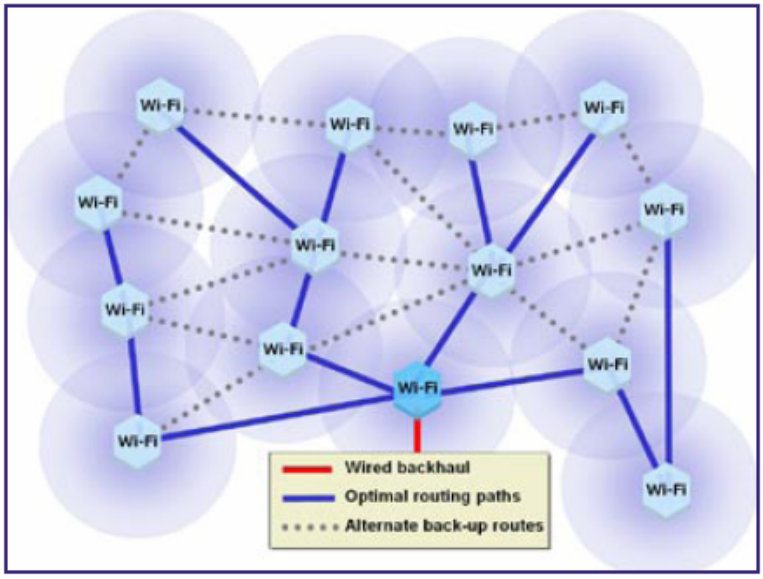

Source: Tropos Networks

While each of the previously listed approaches has its fans and naysayers, of late mesh WiFi (and the municipal variety in particular) has been the subject of some rebuke – so let's look a little deeper, shall we? While the clouds started gathering earlier (e.g. Mobilepro withdrawing its proposed Sacramento deployment), the recent spate of negative press

seems to have been kicked off by the April 26th remark of EarthLink's CFO Kevin Dotts that his company would "study" the performance of the networks it has committed to build and operate before proceeding with further commitments. So, while Earthlink remains committed to completing and operating its rollouts in Philadelphia, New Orleans, Anaheim and Milpitas, it clearly is taking a "wait and see" approach regarding additional rollouts.

Propagation effects in the case of municipal WiFi means higher deployment expenses along with lower revenues.

Why the hesitation? Let's just say it's a case of optimism meeting reality. In the case of municipal WiFi, this means higher deployment expenses along with lower revenues. The former problem comes largely from propagation effects with WiFi translating into the need for denser clustering of the mesh components, which drives up capital expense. For example, Earthlink is finding that 30-40 nodes per square mile are required to get adequate performance – twice its original projection. The latter problem comes from lower than projected take rates by paying customers, at least partially due to strong competition from incumbent telephone and cable operators.

Does this mean that municipal WiFi is likely to be stillborn? A May 21st AP article suggested as much ("Cities struggle with wireless internet") and promptly gathered scathing reviews from WiFi boosters across the blogosphere.

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Here at Near Earth, we remain cautiously optimistic. Start with the fact that the installed base of WiFi access cards is staggering – hundreds of millions – and continues to grow. This phenomenon is in turn self reinforcing through the power of learning curve effects that drive equipment prices lower. Together, these factors provide deployments that use them with a powerful advantage – low to no subsidies for "Customer Premises Equipment" (which, as we note, may leave their premises from time to time anyway). While WiFi suffers from short range coverage, it can be very cost effective in relatively dense urban environments that ensure usage will be high enough to justify rollout costs. Transferring municipal traffic to the WiFi network also provides an anchor tenant that can help close business cases.

Going forward then, we expect continued rollout of municipal WiFi, but suspect that cities are likely to find that the gravy train has pulled out of the station, as far as terms go. Consider that right now, the San Francisco city counsel is, for lack of a better term, "holding up" Earthlink and Google over terms, and meeting real resistance. While the depth of Google's pockets is well known, it very well could be that this is a reprise of the Mobilepro/Sacramento situation.

Could it be that, after all the hype, people actually have the nerve to want to make some money at this? Perhaps the return of financial discipline could be what municipal WiFi needs the most.

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