

Reader Forum: Rationalizing Small Cell Backhaul

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Lately, whether seen at tradeshow or on industry news sites, there have been a lot of announcements and/or hyped news stories related to small cell networks. This is ongoing even though, to date, there is still very little in the way of outdoor small cell deployments. Why? Because, as of yet, the majority of operators haven't reached the capacity demands where augmentation based on underlying, outdoor small cells ultimately will be required. Taking an introspective view, that's likely more a positive than a negative, as it's currently not clear if the industry fully grasps how best to design outdoor small cell networks. Although vendors have made many announcements and advancements aimed at simplifying deployments, minimizing engineering, and reducing the total cost of ownership, these product introductions, while important, continue to evolve and will likely do so for the foreseeable future.

That said, many of the design challenges faced in the first small cell deployments can't be addressed by product and technology improvements alone. They will require a fundamental rebuild of operators' engineering and deployment processes, with one of the first challenges being varied structure types. Where today operators are accustomed to installing on fairly standard towers and buildings, and having access to accurate engineering diagrams that follow a common template, the scenario differs greatly when moving to metro small cell deployments. Mounting structures will now include traffic lights, street lights, billboards, bus shelters, telephone booths, and sides of buildings, and the challenges from this alone are considerable. Having to rely on such a wide range of structures means

that operators may be dealing with hundreds of landlords and street furniture owners in order to negotiate mounting rights versus one or two tower owners. And, even after successful negotiations, operators will still need to perform engineering studies to ensure equipment can be safely mounted on the structure. Even when mounting on a tower this process takes some time, but it is well defined and structural and engineering diagrams are available for use to perform an assessment. Viable small cell deployments are something altogether different.

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