Wireless Backhaul Opportunities and Issues for Small Cell Architectures

Market Study
Second Quarter 2014

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Published Second Quarter 2014
Version 1.0
Report Number: 02Q2014-02

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Abstract

Small cells and heterogeneous networks are a hot topic in wireless backhaul because there is no single, clear solution to where these devices will be deployed or how they will be backhauled. It will vary by country, state and city – and probably even by area within a given city. Internationally, deployments will be at least as complex as they are in the U.S.

Moreover, carriers also have to provide high capacity, carrier grade reliability, peak performance, and sound network management capabilities in the small cell environment. A lot of testing has been done on small cells, both by carriers and OEMs, but so far there is a dearth of real-world experience.

The main advantages for wireless backhaul, as compared to fiber, are: lower cost, faster (and easier) deployment and sufficiently scalable throughput (depending on the use case and technology chosen).

When operators choose between wireless backhaul methods – LOS versus NLOS, microwave versus millimeter wave versus sub-6 GHz, network topology – it all comes down to the specific challenge they are trying to overcome. Every city is different; it is trite to say, and of course there are similarities and best practices across deployments, but the actual technology choice will come down to the specific situation.

This market study discusses the wireless backhaul technologies available, the benefits and drawbacks of each, the main market drivers for wireless backhaul to support small cells, and the North American forecast for wireless backhaul to support LTE metrocell deployments over the next five years.

Key questions addressed in this study:

- What is the anticipated growth of wireless backhaul in North America through 2018?
- How do the major mobile operators view wireless backhaul?
- What are the major concerns of the mobile operators with regard to wireless backhaul?
- How can these concerns be addressed?
- What is the role for wireless backhaul in small cell architectures?
- How is wireless backhaul deployed?

- What are the attractions and drawbacks of wireless backhaul for the mobile operators?
- How do PTP, PMP, NLOS, millimeter wave and traditional microwave solutions differ?
- How does wireless backhaul compare to fiber backhaul?

This report is recommended for:

- Cellular carriers, particularly those servicing the U.S. market
- Mobile backhaul providers, including telcos and cable MSOs
- Wireless backhaul vendors and solution providers
- Mobile OEMs, particularly those servicing the U.S. market
- Wireless infrastructure vendors, particularly those servicing the U.S. market
- Financial and investment analysts.