North American Backhaul Forecast for LTE Small Cells, 2013 – 2018

Market Study
Second Quarter 2014

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Abstract

Small cells and heterogeneous networks are a common topic of discussion in the wireless and mobile industry. Because small cell deployments vary so greatly in location, there is no single solution for their backhaul. In order to choose a backhaul method for a small cell deployment, mobile operators must go through a decision process that weighs current need (coverage versus capacity and the bandwidth requirements) against initial cost, total cost of ownership, payback period and future scalability.

The main advantages for wired backhaul, fiber in particular, are: high throughput, low latency and substantial throughput scaling over time. But there are two significant challenges with fiber: it is not always where it is needed and it is relatively expensive to deploy. However, once fiber is in place, the incremental cost of adding new capacity is low. On the other hand, 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 backhaul methods, it all comes down to the specific challenge they are trying to overcome. 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 and wired backhaul technologies available and the main market drivers for each type of backhaul to support small cells. It also presents *iG*R's North American forecast for wired and wireless backhaul to support LTE small cell deployments over the next five years.

Key questions addressed in this study:

- What is the anticipated growth of backhaul used to support LTE small cells in North America through 2018?
- How do the major mobile operators view wired and wireless backhaul?
- What are the major concerns of the mobile operators with regard to each type of backhaul and how can these concerns be addressed?
- What is the role for wired and wireless backhaul in small cell architectures?
- How is wired and wireless backhaul deployed?
- How do PTP, PMP, NLOS, millimeter wave and traditional microwave solutions differ?

- How do fiber (point to point and passive), VDSL2 and coaxial (hybrid fiber coax) 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
- Wired and wireless backhaul vendors and solution providers
- Mobile OEMs, particularly those servicing the U.S. market
- Wired and wireless infrastructure vendors, particularly those servicing the U.S. market
- Financial and investment analysts.