Cable's 5G Transport Role: Promise Meets Complexity

EXECUTIVE SUMMARY

For years, unbeknownst to millions of Americans, mobile phone communications have been transported over fiber lines maintained by their cable service provider. Most of the major cable multiple system operators (MSOs) have developed healthy businesses in cellular backhaul. In some cases, they own the cell towers themselves.

Now cable providers are preparing to provide transport services for 5G. Cable is well positioned to support 5G through its hybrid fiber-coax (HFC) networks, including advances in fiber, DOCSIS and distributed access architecture (DAA) that can support 5G from the tower to the network edge.

The industry is exploring how its WiFi coverage and emerging role in Citizens Broadband Radio Service (CBRS) can fit into the mix. The anticipated business models include providing wholesale transport services to mobile network operators (MNOs) and the potential for small cell and other support services for businesses and institutions.

Similar to the hype over 5G itself, the promise of 5G transport service is meeting harsh reality. The road to success is much more complicated than what cable has faced with its current cellular support. Cable is poised to benefit in many ways from 5G, but it must be careful to avoid getting stuck in a quagmire of complexity.

Cable's 5G Transport Role: Promise Meets Complexity analyzes the prospects for cable to provide 5G mobile transport services and examines the recent technologies and strategies that are being explored. It assesses the challenges that cable, mobile and technology companies must overcome to make 5G a success. 5G transport was a primary topic during recent Light Reading conferences and the SCTE Cable-Tec Expo 2018, providing relevant information for this report.

5G requires a transport system consisting of fronthaul, midhaul and backhaul, and the parameters of how that will work have yet to be figured out. Cable's wired plant is well suited to provide the space and power requirements needed for small cells that will connect users at a high-speed, low-latency level. However, the path to 5G deployment is muddied by conflicting agendas and capabilities, making it difficult to plan, budget and forecast transport and small cell needs. Cable could be 5G’s savior, but it must sort through many delivery issues first.
In addition to technological complexity, 5G transport is clouded by competitive issues. Verizon and AT&T appear to be establishing their own fiber-based transport wherever possible; others, such as cell tower owner Crown Castle, are increasing their fiber transport networks. The competitive stakes are high since 5G could become a threat to cable’s broadband business while cable could use it to compete against the MNOs. Meanwhile, there are already signs of public resistance to more towers and small cell installations that are being deemed eyesores.

Entering this fray, cable technology suppliers are playing various roles and preparing products and solutions, including infrastructure support, mobile transport, small cells, powering, monitoring and testing. Heavy Reading has identified 22 cable suppliers that are expanding into 5G or play roles in WiFi, CBRS and related fields that could lead to a 5G role. In this increasingly crowded field, they may find themselves competing against each other, as well as other mobile suppliers and international players.

The major U.S. cable providers provide cell tower backhaul service, typically through their business services divisions. Business services remain a valuable growth area for cable companies during a time when pay-TV revenues are in decline. Cable providers reaped more than $18 billion in total revenue in 2018, according to Light Reading and Heavy Reading estimates. However, the rate of growth in business services is starting to plateau, as shown in the excerpt below. Additional revenue through 5G support could provide a lift.

**Figure 1: U.S. MSO Commercial Revenue Growth, 2004-2018**

![Graph showing revenue growth from 2004 to 2018](image)

*Source: CMG/S&P*

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