

A Neutral Wholesale Wireless Market in the United States

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A path to vibrant competition

A neutral wholesale wireless market, including an open access marketplace, would propel the United States forward in wireless technology, competition, and innovation. We discuss two possible scenarios.

- *Merger remedy.* Under this plan, Sprint and T-Mobile merge. The merged entity sets aside some fraction of capacity, say 25%, to be sold in a neutral wholesale wireless market for an extended period, say 12 years. The neutral wholesale market is run by an independent system operator with a simple goal of maximizing the value of the capacity. The cornerstone of operations is open access and the resulting efficient congestion pricing—which guarantees wholesale customers mobile broadband at competitive prices.
- *Restructured Sprint.* A non-incumbent acquires and manages the Sprint network and converts it to a wholesale-only platform. In this plan, retail subscribers would be sold to T-Mobile or alternative carriers. A long-term capacity deal would be signed to provide capacity through the neutral wholesale market to service these subscribers. Additional network capacity would be monetized through both bilateral contracts and a time and location open-access market for mobile broadband. The restructured entity would disrupt the status quo, creating an opportunity for itself and thousands of potential wholesale customers.

Although it may seem that the retail market is saturated in the US, this is an artifact of the flawed market structure in which a few dominant incumbents operate proprietary networks, providing both wholesale and retail. This vertical integration limits competition and innovation. Other service providers (MVNOs) cannot prosper in such a setting, because they are constrained to offer services that make the dominant incumbents better off. And large wholesale potential customers are hesitant to make specific investments for fear of expropriation by network operators with substantial market power. This conflict of interest between retail and wholesale is extreme—and is seen not just in the US but worldwide.

The solution is to have one neutral wholesale operator that operates the network under the principle of open access with efficient time and location pricing. The vertically integrated mobile network operators then co-exist alongside this neutral operator. A chief benefit is that retail service providers and large wholesale customers cannot be excluded from competitive mobile broadband service. These providers and customers are assured mobile broadband at competitive prices. The guarantee of competitive service is a powerful incentive for entry and innovation. And this entry and innovation brings new demand for

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throughput, motivated by efficient congestion pricing. The expanded demand creates incentives for efficient network investment.

Open access wireless

An open access wireless market is a wholesale market model that brings the Internet ecosystem of innovation to wireless (Cramton and Doyle 2016, 2017). Service providers and wholesale customers have access to network capacity on nondiscriminatory terms. Network throughput is priced dynamically by the marginal demand during congestion. This efficient congestion pricing balances supply and demand at every time and location, as in modern electricity markets (Cramton 2017).

The real-time market provides the foundation for forward markets. Monthly forwards are auctioned before the start of each month; yearly forwards are auctioned before the start of each year. Service providers and wholesale customers take positions in forward auctions to manage risk and optimize portfolios. Market makers and speculators arbitrage across markets, driving prices to competitive levels. Deviations from forward positions are settled at real-time prices based on actual use. The system operator runs the network and conducts the real-time, monthly, and yearly auctions of network throughput.

The goal of the market is to provide a secure, robust, wide-coverage platform for mobile communications. A complementary goal is competition. The open access provision, which ensures that capacity in the physical (real-time) market cannot be withheld, brings vibrant competition through low-cost, nondiscriminatory entry into the wireless market.

The open access market coexists and complements the dedicated networks of incumbent carriers, promoting efficient spectrum use and essential innovation.

Merger remedy

Four-to-three mergers have been proposed in many wireless markets, but often have failed due to an inadequate remedy to address competition concerns. The open access market provides a natural remedy for these mergers, allowing operational efficiency gains while increasing competition. In the remedy, the merged entity sets aside a share of its network throughput to the open access market on a long-term basis. This provides a means for innovative service providers to enter and compete in the market and pay competitive prices to the merged entity for capacity consumed.

The approach is consistent with the recent four-to-three merger remedies adopted in European countries (Austria, Germany, and Ireland), but much more flexible in that entry is open and prices reflect ongoing market fundamentals. The approach is also consistent with merger remedies in electricity and gas markets in Europe, for example, EDF from 2001 to 2012, and proposed in the US in which a share of capacity is auctioned to competitors on a regular basis to foster competition in the wholesale market. The approach has been effective in bringing much needed liquidity to wholesale electricity and gas markets, and thereby allowing entry to those who otherwise would be vulnerable from a highly concentrated and vertically integrated market (Ausubel and Cramton 2010).

Restructured Sprint

A second opportunity to create a neutral wholesale market is when an incumbent carrier desires to exit a market. Sprint in the US is a good example. The retail subscribers are spun off to one or more retail service providers, including an incumbent carrier, such as T-Mobile. The network operator, free of retail customers, becomes a wholesale-only network operator. The operator then can create a neutral wholesale market based on the principles of open access and efficient congestion pricing.

Key benefits

Regardless of whether the neutral wholesale market arises as a merger remedy or from restructuring an incumbent operator, the benefits are the same. The wholesale-only provider eliminates the conflict of interest inherent between retail and wholesale for vertically integrated carriers. The neutral network brings transparent, non-discriminatory pricing to retail service providers and wholesale customers. The efficient time and location pricing enhances network utilization and promotes low-cost entry. Service providers and wholesale customers can make specific investments without fear of expropriation from dominant incumbents.

The neutral wholesale market fosters innovation and competition in the most basic way—by shattering entry barriers in the market for mobile broadband. This allows a much more robust market built on the ecosystem of the Internet, rather than oligopoly. Innovative service providers and wholesale customers can count on competitive pricing at each time and location. This enables the neutral network to improve network utilization, promote efficient investment, and foster demand expansion.

References

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