White Paper

Monetize SP Wi-Fi to Gain Business Advantages

What You Will Learn

Both mobile and wireline service providers face a growing business challenge. Consumers demand greater capabilities and services, which require expensive infrastructure investments. At the same time, competitors make it harder to raise subscription fees to pay for new capabilities.

Clearly service providers must find a combination of cost savings and revenue opportunities that helps bridge the cost-revenue gap. Through the monetization of Wi-Fi capabilities, service providers can address both sides of this situation. They can:

- Provide consumers with the service and content options they demand
- Support these capabilities with a more cost-effective infrastructure
- Benefit from new revenue opportunities

This document looks at each of these opportunities and discusses some future possibilities and best practices for making the most of monetization.

Bridging the Gap

The numbers are challenging for today's service providers. For wireless operators, subscribers continue to increase their mobile data use, straining existing cellular infrastructure. Smartphones, which now account for more than half of all mobile handsets, consume an average daily data consumption over Wi-Fi which is four times more than cellular today, according to the Cisco Data Meter[1]. Add the growing market for tablets, and it is easy to see why data use is increasing dramatically. Some of the expense of supporting this demand can be covered with tiered data plans, at least in the short term. However, subscribers balk at substantial increases in monthly access fees, and they often transfer between carriers as they look for the best deal. As a result, providers are left with the growing cost of expensive cellular bandwidth with few revenue options that will pay for it.

Wireline and cable operators face a similar challenge. Subscribers want more content options - such as original series, on-demand viewing, and multiple access points - which all have higher associated costs. Faced with this encroachment on their traditional market, providers must find new ways to serve their existing customers, while also finding new markets for expansion. With significant price competition from competitors such as Netflix, Hulu, over-air broadcasts, and DVD kiosks, they have little pricing flexibility. Again, users want more, but because of available low-cost options, they aren't willing to pay more. Like wireless customers, cable subscribers often review the available offerings carefully, looking for savings and increasing costly turnover for the provider.

For an increasing number of forward-looking providers, Wi-Fi and Wi-Fi monetization offer ways to address these trends.

Wi-Fi: More than a Cellular Alternative

Today's consumers are not very patient. They have grown accustomed to the immediacy of using their cell phones or tablets to look for directions, products, and services. They expect to get the data they want when they want it, without waiting. This mobile access can be provided with a cellular network or a Wi-Fi network.

Cellular service, however, has become less attractive, because tiered data plans and data caps have added expense for consumers. With Wi-Fi networks available at work and home, many people migrate easily to this option with public Wi-Fi. The improved experience, seamless connectivity with Hotspot 2.0 and Passpoint, and lower cost of Wi-Fi make it an attractive choice for mobile data access.

Service providers now need to take advantage of the growing demand for Wi-Fi and monetize it. The right type of Wi-Fi deployment can give consumers the access they demand, while service providers can reduce costs and increase revenues. Broadly classified, this monetary benefit can be delivered in two ways: through lower costs and through increased revenues.

The following sections look at each of these approaches.

Lower Costs

Wi-Fi can help wireless and cable operators decrease costs in two ways. It can reduce the overall cost of providing data access, and it can reduce the cost of turnover or lost subscribers.

Mobile Data Offload

For wireless carriers, the cost of mobile data access is a critical concern. Although the cost to support cellular access varies by provider, it can cost a typical service provider approximately US$0.01 per MB to transport data over a cellular network[2]. Even a customer with modest data consumption can quickly cost a provider US$20 per month to support.

As data use increases, so will the associated expense. Wi-Fi, however, provides a cost-effective alternative for mobile offload. It frees the cellular network from the burden of transporting bandwidth-intensive content, such as streaming video or audio, and places that multimedia data on a better-suited network. One Cisco® service provider customer estimates the resulting savings will surpass US$1 billion in seven years.

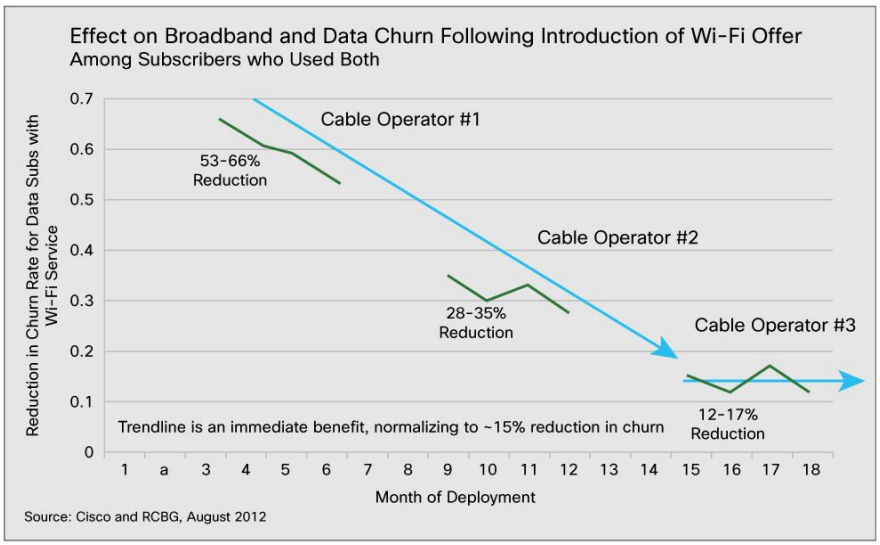
While consumers like the portability of data access, they show a clear preference for Wi-Fi-based access. Consumers want to avoid the extra costs imposed for exceeding their data limits, and they typically rate the multimedia experience over Wi-Fi as more rewarding.

Reduced Churn Costs

Subscriber churn creates instability and additional expense for both cable and wireless providers. Several studies indicate that the availability of a Wi-Fi option for subscribers helps reduce churn and its associated costs. For wireless carriers, the added Wi-Fi capabilities of smartphones raise customer satisfaction and translate directly into reduced churn because satisfied customers are less likely to leave a carrier they like.

Cable operators can also achieve reduced churn through Wi-Fi. By providing access to public Wi-Fi hotspots as part of their subscribers' home broadband package, cable operators often see an immediate and lasting effect on churn. A Cisco study mapped the savings from three large cable operators (Figure 1). Immediately following the introduction of Wi-Fi hotspots, these cable operators saw a 50 percent reduction in churn. The churn rate slowly decreased and then stabilized around 15 percent[3]. This 15 percent reduction, if applied to a base of one million subscribers, would result in a US$30 million savings over five years.

Figure 1. Churn Reductions for North American Cable Operators



Increased Revenues

The cost-saving potential of Wi-Fi, especially through data offload, has been the subject of discussion for several years. However, it is the rapidly developing revenue opportunity, available through Wi-Fi, that can deliver the greatest monetization. In fact, this potential is so great that a few forward-thinking operators plan to provide Wi-Fi access free of charge, just to gain access to the revenue potential. They believe that the revenue potential is more than enough to cover the cost to deploy the Wi-Fi network.

Although there are several ways to generate revenue through Wi-Fi, such as offering network as a service and managed services, this document concentrates on the two most promising options: Wi-Fi based advertising and analytics.

Mobile Advertising Revenue

Internet advertising is nothing new. Browser pop-up ads and sponsored links are as ubiquitous as email, and they surpassed newspaper advertising in 2010.[4] Although they are relatively new, mobile loyalty applications and mobile advertising are expected to grow at a compound annual growth rate of 153 percent,[5] which will claim a bigger share of the Internet advertising market.

Mobile advertising can generally be divided into three categories. Landing-page ads are displayed on a site's primary webpage, providing the mobile version of their web portal. Access ads are displayed when the Wi-Fi network presents the sign-in page to subscribers and nonsubscribers. Location-based ads push content and services based on a customer's location.

As with all advertising, the effectiveness of mobile advertising is directly related to the relevance of the content. A pop-up ad for fresh lettuce in New York is an annoyance for a consumer in Los Angeles. However, if that same lettuce is available at the store next door, the value the consumer places on it increases.

Relevance is the foundation of context-based advertising. Context can mean location, time, environmental conditions - or anything else that provides more information about the customer's current situation. For instance, studies have shown that 90 percent of consumers who receive content or services based on their location perceive value in that communication. More important for the advertiser, 50 percent of those recipients act on that information.[6]

This real-time, location-based approach supports "mobile moments." A mobile moment is the short duration of time when a consumer is looking for a particular product and is most receptive to information about that product. For instance, when a consumer is considering various options for a television, the related information, content, or advertising they receive during that moment will have a bigger influence on their decision. In other words, the communication has a greater effect when it is most relevant.

The perceived relevance affects the revenue potential, as measured by "cost per mille (CPM)," or cost per thousand views, for such advertising. Studies have shown that the delivery of advertising based on location boosts CPM by 10 to 35 times.[7]

The range of potential CPM is based on several factors, including:

- Accuracy of location information: Appliance advertising delivered in the appliance section of an electronics store is more valuable than television advertising delivered in the car audio section. Although GPS information is available for outdoor locations, Wi-Fi can provide indoor locations and, depending on its deployment, can deliver accuracy within a range as precise as 3-5 meters.
- Value of the advertised product: High-end products generate high-end CPM because each impression or viewing of an online advertisement and potential sale can deliver greater incremental revenue for the retailer. Consequently, advertising for high-end watches carries a higher CPM than advertising for frozen yogurt.
- Associated demographic information: As mentioned previously, advertising value is based on relevance. If location information can be augmented with demographic data, either through a loyalty application or subscriber profiles, the information's relevance and value are increased.

Analytics Revenue

The term "big data" has become ubiquitous. A basic concept of big data is that, as processing and storage capacity increase, the accumulation of data will lead to more accurate and predictive forecasts and insights. However, the accumulated data is only the raw material of insight, and not all data is equal. According to forecasting experts such as Nate Silver, statistician and predictive analytics expert, some data is "signal" and some data is "noise." In other words, the quality of the forecasts is determined by separating the insightful information from the irrelevant material.

In a Wi-Fi network, context and intelligence can function as the first filter of big data. That is, a network that accumulates data simply collects bits, but a network that applies intelligence to the data starts to streamline forecasting. As the contextual accuracy increases, the forecasting data becomes richer and more pertinent.

Because Wi-Fi networks must connect to a device that is on the move, the infrastructure can generate context information, primarily locations and movement within a venue, such as a shopping mall, stadium, etc. When compiled historically, this data can uncover behaviors and provide context for each customer's current location and movement.

Retailers pay a great amount for this type of analysis. In fact, one small service provider anticipates that the revenue from location analytics alone will rise from nearly zero in 2013 to more than US$4.5 million in the next four years. The increase is forecast because this type of analysis can help businesses better understand onsite consumer behaviors, so businesses can offer a better experience and influence customers' buying decisions. These changes can contribute to greater return on investment (ROI) in network reporting capabilities.

In general, businesses are interested in the following three types of reports:

- Historical reports: By accumulating context, a location-enabled Wi-Fi deployment can build a rich history of customer behavior. The venue can use the information to set base levels for activities and results, which helps the business measure the effect of onsite changes and services and identify long-term trends.
- Real-time reports: A real-time report can provide the venue with current context status. Depending on permissions, this context can help identify aggregated customer movements, so the business can adjust staffing or services to better accommodate the current situation. If a customer opts in, the business can deliver real-time, location-based content directly to that customer to more effectively influence buying behavior.
- Predictive reports: By combining historical and real-time reports, a predictive report can enable the venue to forecast the range of possible outcomes for specific actions. For instance, based on historical patterns, the venue can determine what might occur if they change sales associate locations based on current customer locations.

To support monetization, these reports can be delivered using any of the following models. The revenue potential is a direct function of the delivery model.

- One-time: Single-use reports can be offered to promote goodwill and, potentially, to create interest in other report delivery models. As a result, one-time reports will have little effect on revenue.
- Subscription: Subscription-based reports can be delivered at any interval. This model can provide a consistent stream of midrange projected revenue.
- Custom consulting: As with anything customized, custom consulting or reporting comes with a premium price tag. This type of delivery model provides the highest degree of value to the customer and, therefore, provides the highest projected revenue.

Open or Closed

In general, public Wi-Fi deployments are either open to everyone or open only to subscribers. Neither model is right or wrong. Each is best suited for specific use cases.

Subscriber

The subscriber network can be available for existing account subscribers or for pay-per-use customers. This closed Wi-Fi deployment provides added value for subscribers and can reduce turnover. It can also provide a modest stream of revenue through pay-per-use fees. Finally, the closed network can boost CPM by combining location context with demographic information about subscribers and pay-per-use customers - both of whom must opt in.

Nonsubscriber

Several leading service providers have decided to launch open, nonsubscriber Wi-Fi deployments. Although the model may seem counter intuitive - giving something of value for free - the end result actually creates greater value. An open Wi-Fi network expands the potential audience of the deployment, delivering more impressions. As a result, a business delivers advertising to and receives analysis from all the Wi-Fi-enabled consumers, not just the subscribers to a single service provider. The open network also makes the provider more attractive to a broader, more inclusive consumer profile.

Who Pays?

The question of open or closed Wi-Fi networks raises another question. Who pays? Customers have clearly shown a willingness to pay for voice service. However, with more than 51 percent of hotspots offering free Wi-Fi,[8] customers will be less willing to pay and service providers must consider other options.

Service Provider to Consumer

Clearly, the consumer will always be a part of the service provider business model. Wi-Fi mobile data access can be provided to the consumer as part of an enhanced package of services. For instance, wireless and wireline providers can provide free hotspot access as part of their subscriber package. Though not a source of revenue, this go-to-market approach can help service providers retain customers through enhanced services.

Service Provider to Enterprise

The advertising and analytic capabilities made possible through a context-enabled Wi-Fi network are a natural fit for enterprises. As mentioned earlier in this document, service providers can go to market with several types of analytic reports and subscription models to provide companies with valuable insights. In addition, the providers can offer advertising programs that help these enterprises market their goods and services. In each case, revenue from the enterprise pays for the Wi-Fi infrastructure.

Service Provider to Enterprise to Consumer

Service providers can also provide and manage Wi-Fi-based business-to-consumer (B2C) services for enterprises, separate from their advertising and analytic offerings. In this case, the service providers support and manage an enterprise's customer-facing Wi-Fi deployment. For instance, a service provider could install and maintain a Wi-Fi network for a hotel for a fee. The hotel, in turn, would use the network to provide the free Wi-Fi access that guests increasingly expect.

The Right Wi-Fi

Not all Wi-Fi networks are created equal. Context information such as location is an integral part of revenue-producing advertising and analytics services. A deployment that cannot support context severely limits the potential of the network.

To move forward with a Wi-Fi deployment, look for a technology partner that understands the value of Wi-Fi monetization and can deliver on the essential location capabilities.

As a leading provider of wireless technologies, Cisco can be an excellent partner. Cisco Connected Mobile Experiences provides the context-aware Wi-Fi capabilities needed to deliver the full potential of Wi-Fi monetization while enabling service providers and businesses to retain control. For more information, visit http://www.cisco.com/go/spwifi.

Conclusion

Public Wi-Fi is evolving. Originally seen as a separate entity from the cellular or cable network, wireless access can become a source for growing the service provider business. By properly monetizing the network, service providers can address the cost-revenue challenge. They can:

- Save money through mobile offload
- Save money through reduced turnover
- Increase revenue through higher CPM rates
- Increase revenue through analytic reporting subscriptions.

In other words, service providers can deliver better service and more options while expanding their markets and revenue potential.

Notes

[1]. Cisco Data Meter, Sept. 2012 - Dec 2012.
[2]. Cisco and RCBG, August 2012.
[3]. Cisco and RCBG, August 2012.
[4]. **Internet Trends**, Kleiner Perkins Caufield Byers, May 2012.
[5]. **Internet Trends**, Kleiner Perkins Caufield Byers, May 2012.
[6]. Location-Based Services are Poised for Growth, Trustworthy Computing, Microsoft, 2011.
[7]. Cisco and RCBG, August 2012.
[8]. **Wi-Fi vs. Cellular: The tablet's impetus for change**, Gurpeet Kaur, Gap Intelligence, June 30, 2011.

For More Information

http://www.cisco.com/go/spmobility.

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