



## WHITE PAPER

# Location-Based Services: An Important Building Block to Enhance the Customer Experience

Sponsored by: Cisco

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## IDC OPINION

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Location-based services (LBS) show promise as a budding customer-centric mobility solution in some early adopting verticals such as retail, hospitality, and large public venues. Such services enable businesses to better understand their customer base through analytics as well as offer targeted, context-based communications including promotions and remote assistance. This IDC white paper explores the burgeoning LBS market, highlighting custom research conducted by IDC in March and April 2014; surveys were fielded to both IT and line-of-business (LOB) decision makers in select verticals and market segments. In this white paper, IDC analyzes the data and explores the attitudes surrounding LBS adoption in the context of broader technology trends.

## SITUATION OVERVIEW

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While the explosion in mobile device usage has led to an array of well-publicized IT challenges, it has nonetheless created tremendous business opportunities. Mobility is everywhere; it is in healthcare sites in which mission-critical tablets access medical records to large public venues in which sports fans share game photos over social media. As an omnipresent market force, mobility is driving enterprises to provide the appropriate infrastructure support to ensure that they can enjoy both the realized opportunities and the unrealized opportunities that mobility creates.

Today, smartphones have a seemingly ubiquitous presence in many people's personal and professional lives. Many consumers are using smartphones to aid or enhance their experiences in shopping, dining, and recreation, among other environments. This presents businesses in these spaces (many of the businesses already enable mobility for internal purposes) with a tremendous opportunity to add value to the experiences of customers via their mobile devices. Through LBS applications, businesses can use wireless connectivity to improve customer experience while benefiting the business.

One way to create a more captivating brand experience is for the brand to meet customers where they like to be – and many of today's consumers like to use devices that allow them to be mobile! Across geographies, verticals, sectors, and company sizes, LOB managers face mounting challenges in driving brand loyalty – a crucial element to business survival. Aside from guaranteeing continuous revenue streams, brand loyalty generates network effects that are important to remaining competitive in today's environment, where competitors can be physical or digital, or a combination of both (referred to as omni-channel).

## Early Use Cases

### *Retail and Hospitality Sectors*

The retail and hospitality sectors, which are rapidly transforming to meet omni-channel consumer needs, provide fertile ground for experimenting with and taking the next step in building customer loyalty. Retailers aspire to engage the consumer in a very personalized way as a result of the understanding and the interaction that become possible when utilizing LBS. For instance, retailers can use LBS to push a relevant promotional offer to a customer who is spending an extended amount of time in one department or send a welcome message to a repeat shopper upon his/her entry. The guiding belief is that customer loyalty is a natural outcome of a relationship built on relevant and reciprocal trusted engagement. Similarly, in hospitality, venues seek to provide personalized remote assistance, wayfinding, and access to recreation and services that enhance the guest's stay, with the intention of encouraging loyalty to the hotelier whose technology enabled a more seamless guest experience.

One of the primary objectives in becoming an omni-channel retailer or hospitality provider is to provide better customer-centric service by knowing consumer needs, having the right products and information in the right place at the right time, and fulfilling customer needs seamlessly regardless of the path the customer journey takes. But an ongoing challenge is achieving a complete understanding of the customer, as he or she traverses online, physical, and mobile properties. For example, when the ecommerce and bricks-and-mortar business unit leaders of retailers started comparing notes so that they could develop a common taxonomy for their customers, they realized that there was no corollary in store for the clickstream analytics available to ebusiness counterparts. Without a complete omni-channel customer profile, the precise buying pattern is incomplete, and personalized customer interactions are based on many assumptions. This is one of the reasons retailers are very interested in LBS.

### *The Value of LBS for Retailers*

Location-based services help retailers better understand customer behavior in proximity or on-premise in physical locations so that they can establish a more complete understanding of customer needs; this deeper layer of behavioral data provides greater insight into in-store traffic patterns for both buyers and nonbuyers, including visit frequency and missed opportunities. Ultimately, the data drives better planning, better service, and higher customer engagement levels, and this translates into increased customer loyalty and improved business performance.

Consumer mobility enables both the collection and the effective usage of consumer data; the mobile phone provides the means to identify and connect with the consumer and serves as an in-aisle shopping tool. Allaying consumer fears regarding privacy is the primary challenge. IDC Retail Insights' annual shopper survey, presented during a breakout session at NRF 2014, demonstrated clearly that customers are willing to barter privacy for better value (offers or services). In the same NRF session, moderated by IDC Retail Insights, one retailer said, "Utility ultimately drives loyalty" as we discussed how leveraging customers' past purchase history data enables better consumer marketing decisions. Another retail panelist described how with 60% of transactions coming through loyalty marketing programs, his company is moving from a customer-centric to a member-centric view of engagement: "Data is the sexy part."

## ***Keeping LBS Ahead of Customer Expectations***

LBS will only be as useful as retailers make it, however. Other challenges that will emerge as LBS matures will be adapting and upgrading capabilities in line with usage – including the infrastructure that is the backbone of engaging customer experiences. Substandard networks and capabilities will not only deter but also have the potential to reverse consumer interest.

The number of pilots and implementations continues to grow steadily. While the value proposition appears clear for the customer, enterprises will need to proactively address consumer privacy fears for the LBS opportunity to be fully realized. Consumer opt-in is a simple fix, and consumer education and LBS demand generation are the longer-term solutions. For customers, being recognized as valued shoppers is addictive; once they have that recognition from retailers, they will want more of it because it makes shopping easier and more rewarding. Thus, consumers will drive LBS adoption.

## **METHODOLOGY**

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The findings described in this white paper are based on analysis of data from two custom LBS surveys fielded in March and April 2014 by IDC's Quantitative Research Group. IDC directed one survey toward IT managers and the other toward LOB managers. The surveys asked respondents about current usage of and future plans for LBS solutions, as well as underlying infrastructure. For both surveys, the sample was drawn from three customer segments: larger national retailers, major shopping malls/centers and airports, and national hotel chains/convention centers/sports stadiums. All respondents were United States based. For both surveys, the n value is approximately 300.

## **LBS SURVEY FINDINGS**

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### **Alignment of LOB and IT Buyers Should Foster Effective Collaboration**

While many technology initiatives cause conflict between business and IT groups, our LBS surveys found a surprising degree of alignment between the LOB and IT decision makers in the business segments surveyed on all facets of LBS. Both LOB and IT agreed that having a mobile strategy and LBS is a business imperative for their organization. Both groups agreed on the business objectives of LBS, the applications and potential use cases for LBS, and the potential barriers to adoption of LBS and/or receptivity to LBS among both organizations and consumers. Further, both groups exhibit a strong consumer orientation in their thinking about LBS; LBS is about improving the consumer experience first and foremost. This degree of alignment between the LOB and IT groups should foster more effective teamwork and collaboration in leveraging mobility to meet business objectives.

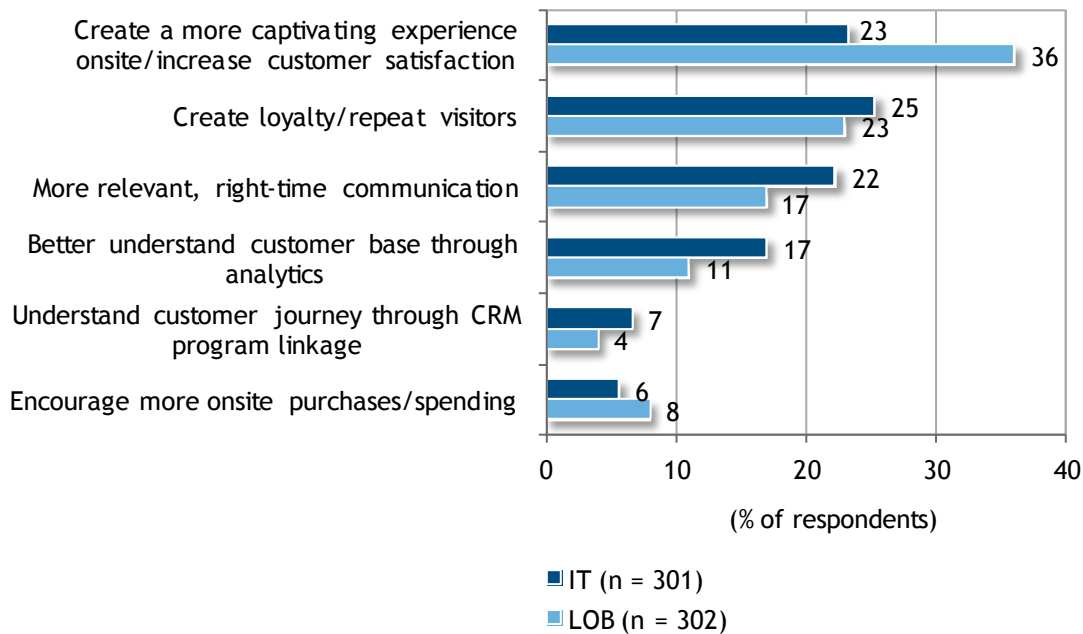
For both IT and LOB, around 30% of respondents described their mobile strategy as "comprehensive," whereas 70% described their mobile strategy as "basic." (Please note that potential respondents who indicated no mobile strategy were eliminated from the study.) IDC expects comprehensive mobile strategies to continue to increase – considering that 56% of the LOB respondents indicated that having a mobile strategy is either "very" or "extremely" important in supporting their business objectives.

In terms of goals and objectives around mobility and LBS, IT and LOB consistently reported that their main objectives are to create a more captivating/personalized customer experience, increase customer/guest satisfaction, and increase repeat business/loyalty. Mobility is seen as a means to providing a more personalized customer experience while enabling customers/guests to have access to useful information. In adding LBS to preexisting mobility strategies, both LOB and IT respondents aim to create a more captivating experience in-store/onsite while increasing customer satisfaction as well as cultivating loyalty to drive repeat visits from customers (see Figure 1).

**FIGURE 1**

**Perceived Benefits of Location-Based Services**

Q. *What are your organization's perceived benefits of using LBS? Of these perceived benefits, which one is most important for your organization?*



Source: IDC's custom LBS survey, 2014

**LBS Adoption**

LBS, especially WiFi-based LBS, is in the beginning stages of adoption. While LBS has been around for the past couple of years, WiFi-based LBS has seen very little adoption as comprehensive solutions have been slow to come to market and enterprises have been unsure how consumers would respond. IDC predicted that 2014 would be the year that WiFi-based LBS would emerge into the mainstream of enterprise networking applications. This document lends credibility to that prediction as the overall sample shows LBS adoption of 11-12% within the early adopting retail/hospitality segments surveyed. This finding suggests a relatively rapid uptake in the sample segments. While some of this adoption may reflect smaller, less comprehensive solutions, IDC believes that overall, this level of adoption indicates rising momentum and intent to purchase LBS solutions.

The survey sample was drawn from United States-based national retailers, shopping centers, hotel chains, airports, and sporting venues. IDC believes the potential use cases for LBS extend far beyond these groups. The two critical elements needed to make the case for LBS deployment are a mature WLAN or other enabling infrastructure and a robust base of mobile device users. Several markets outside of the United States meet these criteria. Also, IDC believes that use cases exist beyond large enterprise chains. Moreover, potential benefits exist for midmarket players in the retail and hospitality sectors, given that other market dynamics (segmentation, positioning, and site design) are similar. IDC believes that midmarket-focused LBS solutions will be introduced into the market over the next few years.

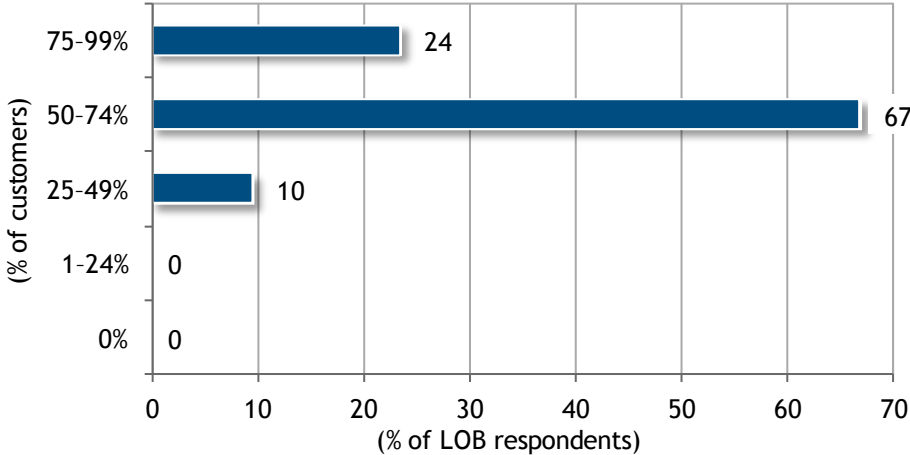
**Customer Receptivity**

Respondents perceive that the vast majority of their customers will be open to LBS. Although there are perhaps valid concerns about data privacy and security on both ends, respondents largely believe that the benefits customers realize from LBS will outweigh the potential risks. Nearly one-quarter (24%) of LOB respondents believe that 75%+ of their customers will be receptive to mobile services, while just over two-thirds (67%) believe that 50-74% of their customers will be open to mobile services, such as LBS (see Figure 2). Both LOB and IT respondents generally indicated similar anticipated benefits; most notably that the end user will feel more connected to the organization and that the end user will receive more targeted communications.

**FIGURE 2**

**Anticipated Guest Receptivity to LBS**

Q. *Approximately what percentage of your customers/guests are receptive to mobile services?*



n = 302

Source: IDC's custom LBS survey, 2014

## Near-Term LBS Use Cases

In the greenfield stage of LBS deployments, both current and potential enterprise customers are nailing down their first set of basic application use cases for this technology. When we asked LOB and IT respondents about applications for which their enterprises planned to use LBS over the next one to five years, the majority of both LOB and IT respondents pointed to the following applications:

- Navigation/mapping/"wayfinding" capabilities for customers and end users (70% IT, 60% LOB)
- Pushing location-based communications to customers (71% IT, 63% LOB)
- End-user tracking and analysis applications (66% IT, 59% LOB)
- Pushing location-based offers or promotions to customers (66% IT, 58% LOB)

Other potential use cases about which respondents were surveyed were less popular. Perhaps surprisingly, less than half of respondents anticipated LBS being used to support mobile payment solutions – evidence that mobile payment solutions have some distance to travel before they are considered ready for mainstream LBS deployments. Perhaps less surprisingly, given concerns over privacy, less than a quarter of respondents anticipated leveraging LBS to enable geosocial applications (applications that allow users to communicate with each other based on proximity).

## Barriers to Organizational Adoption of LBS

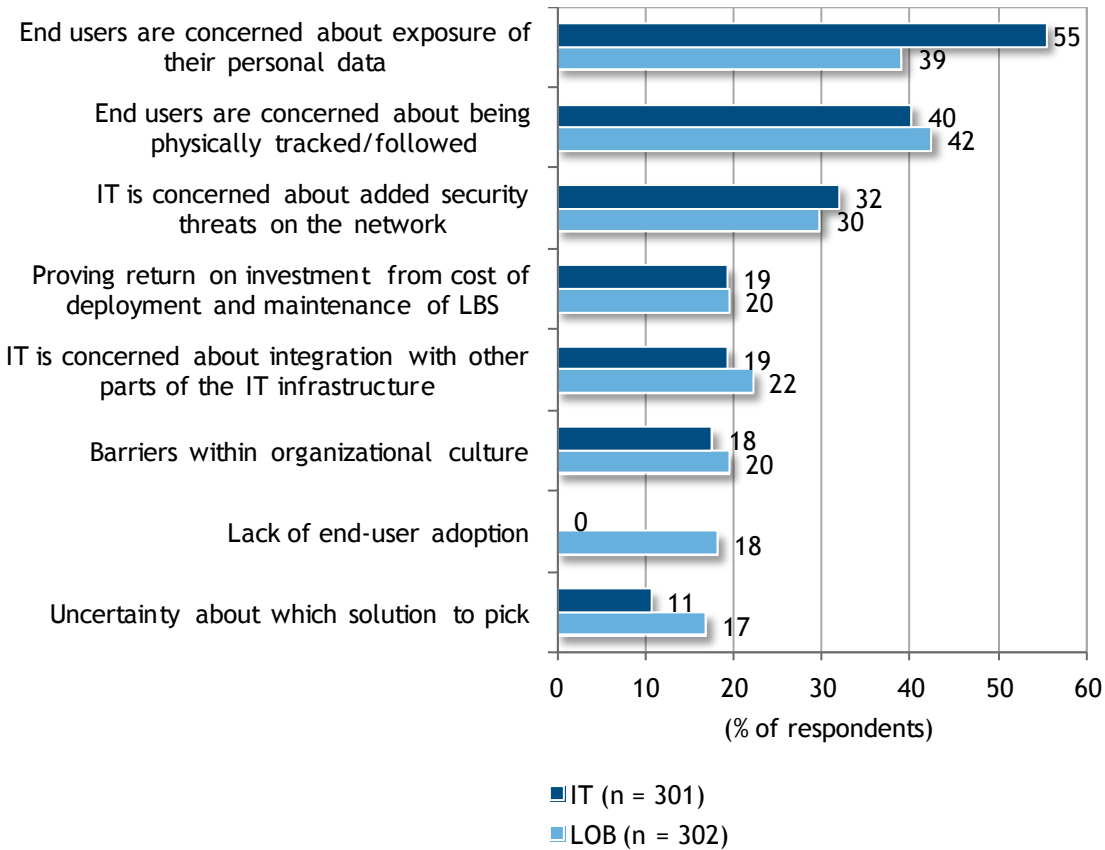
While largely recognizing the potential benefit of LBS as well as receptivity of their customers to LBS, IT and LOB managers are also aware of challenges that could hinder the case for LBS. LOB and IT buyers reported that a leading barrier for their organizations in leveraging LBS analytics and services is the concern among end users about the potential for their personal data to be exposed. Over half (55%) of IT respondents and 39% of LOB respondents indicated this as a concern. Another salient barrier for the organizations of both IT and LOB buyers is the concern among end users about being physically tracked and followed, as indicated by 40% of IT respondents and 42% of LOB respondents (see Figure 3).

There are also more bureaucratic concerns, such as uncertainty over which solution to pick (17% LOB, 11% IT, 26% of retail-based LOB). This is likely a function of the technology's nascence and demonstrates the need for better education about how LBS works and how it can benefit certain enterprises. Moreover, for organizations that have implemented a more comprehensive mobile strategy, there is another significant barrier: the concern over added security threats to the network with the addition of devices and data traffic on the network. This concern was shared by an almost equal proportion of IT and LOB respondents (32% and 30%, respectively).

**FIGURE 3**

**Barriers to LBS**

Q. *What concerns or barriers to adoption do you foresee for your organization in leveraging WiFi-based LBS analytics and services?*



Source: IDC's custom LBS survey, 2014

***Sole Control Over the Data***

Another issue that came up for many organizations was whether or not they would have sole control over the data collected from LBS applications. Around 85-90% of the two respondent samples reported that having sole control is either very important or extremely important. However, the proportion of respondents indicating extremely important was typically much lower, at roughly 50%, with the exception of LOB managers within the major malls/shopping centers and airports segment, where nearly three-quarters (74%) stated they feel it is extremely important to have sole control over location-based data.

## Types of LBS Deployments

It is also worth noting that at the time of the survey, not all survey respondents had implemented an enterprise-grade WLAN (WiFi) infrastructure. Of the IT respondents (LOB respondents were not asked), 42% have deployed a WLAN infrastructure, with another 38% expecting to deploy WiFi at some point in the future. 20% of IT respondents indicated no plans to deploy WiFi. One reason for the lower-than-expected adoption rate is the inclusion of the retail vertical in the survey; widespread enterprise WiFi deployments are less common in retail than in other verticals.

Does this mean that there is a lower chance of these enterprises deploying LBS? Not necessarily – we recontacted a subset of respondents and asked which technology they planned to use to enable LBS. While 55% responded that they would use WiFi, and 10% responded they would use WiFi in concert with other technologies, 10% stated they would use something other than WiFi to enable LBS, and 25% were undecided. This shows that there is an opening for LBS applications powered through beacons, ZigBee, Bluetooth, or other technologies.

## LBS TECHNOLOGY EVOLUTION AND ROAD MAP

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As stated previously, consumer-facing businesses are increasingly seeing the possibility of leveraging the explosion of mobility to better serve customers and create opportunities for competitive advantage. However, as LBS solutions have only begun to emerge and gain awareness within their addressable markets, today's use cases of LBS are often ad hoc and are not based upon standardized, enterprise-grade solutions.

Examples of how enterprises within retail, hospitality, and large public venues are using LBS today include customer-facing social networks such as Foursquare, Yelp, Facebook, Google, and Shopkick that have location capabilities such as check-ins. Integration with these platforms has enabled basic geolocation monitoring and analytics for many enterprises within retail, hospitality, and public venues. However, the market is emerging for solutions plugged into existing IT infrastructure at both the front end and the back end that also allow for more ownership of the data collected. At the same time, IT and LOB desire solutions that can combine navigation, communication, and analytics in a more seamless manner.

In the past few years, both traditional networking equipment and software vendors, along with a few start-ups, have begun to offer LBS solutions that allow customer-facing businesses to offer LBS in a more proprietary manner. The solutions on the market may leverage different enterprise communications platforms, including Bluetooth, ZigBee, and WiFi, as mentioned previously.

IDC sees WiFi-based LBS solutions as the driver of the market. As data in this white paper suggests, many enterprises in the retail, shopping center, and large public venue spaces have enterprise-grade WiFi in place, and many of the enterprises that do not will have WiFi in the not too distant future. Many external factors, including but not limited to proliferation of mobile devices, regulatory demands, and abundance of cloud applications, are already driving increased enterprise WiFi deployments. Furthermore, the rapid emergence of the 802.11ac is bringing even more attention to WiFi. At the same time, IDC does not see Bluetooth or other lower-energy wireless communications solutions becoming completely obsolete but believes that WiFi will emerge as the prevailing standard for LBS deployments. With WiFi's applicability to a



broader range of devices and applications, greater data rates, and larger preexisting install base, it makes sense that WiFi is in a strong position to be the greatest enabler for LBS.

While today's solutions are moving in the direction of comprehensiveness, IDC anticipates that the LBS ecosystem will become more competitive with a greater number of complete solutions. In addition, vendors will add more vertical-specific capabilities (including APIs), and some vendors will position their offerings based on verticals, enterprise size, and/or multivendor infrastructural support. Whereas today's LBS solutions are overwhelmingly tilted toward retail and large public venue customers, we expect to see more offerings targeting healthcare, education, and retail banking in the near future. Given today's prevalence of smart mobile devices, there is still abundant opportunity to discover more LBS applications and generate more value from the network.

## CHALLENGES/OPPORTUNITIES

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IDC believes the greatest challenge for LBS is related to the concerns over end-user data privacy. High-profile data breaches within the retail sector have made headlines several times over the past few years and have created reasonable concerns over vulnerabilities for enterprises protecting personal data. Given media attention to these risks vis-à-vis LBS, early adopters have the task of assuring end users that their personal information is safe. While roughly 40% of both IT and LOB respondents believe that end users may be concerned about being physically tracked or followed, just over 90% of LOB managers indicated that their guests will likely be receptive to LBS nevertheless, suggesting that the perceived benefits of LBS will outweigh the perceived risks. Other challenges are that this technology is relatively new to the market and the wireless infrastructures of some of the early adopter verticals are relatively immature. When WiFi or another enabling infrastructure is still new to the enterprise, there is a learning curve for IT and LOB alike. Adding LBS or any other wireless application to the IT infrastructure increases this learning curve while adding complexity to managing the network. Choosing an LBS solution that integrates seamlessly into the network is critical to mitigating this challenge.

However, alongside these challenges lie great opportunities. Wireless networks are often seen as a cost center – at best, a valuable business enabler; at worst, an unnecessary "nice to have." LBS shifts the paradigm from cost center to ROI generator. LBS applications have the potential to take advantage of the explosion of mobile devices and customers' hunger for WiFi while enhancing customer engagement, increasing visits and dwell times, providing remote assistance, and encouraging additional purchases through targeted, contextually relevant communications. These opportunities come with both short-term and long-term potential for network monetization. Moreover, LBS can further leverage the desire of end users to be mobile in verticals such as retail by combating the phenomenon of "showrooming" (searching for products in-store, comparing prices on a mobile device, and then purchasing them from a competitor online) and providing a means to have a more successful omni-channel strategy. Further, capabilities such as remote assistance and wayfinding can be a source of operational efficiency in all verticals, allowing customers to be more self-sufficient and employees to focus on their core jobs.

## CONCLUSION

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From the results of our custom research, IDC believes that LBS has great potential to allow enterprises in the retail, hospitality, and large public venue spaces to take advantage of the explosion of mobility, fight back against competitive phenomena such as showrooming, extract valuable customer data, and gain operational efficiency. LBS also enables the wireless network to transform from a pure cost center to an engine for short-term and long-term monetization. However, LBS comes with risks to be managed and mitigated. Most saliently, IT managers must be aware of security implications for both the enterprise and the end users of LBS. LOB decision makers must have a firm grip on the complex relationship between the security and privacy concerns of end users and their desire to enjoy the benefits of LBS that can come in the form of discounts and remote assistance. If these potential risks and rewards are properly balanced, LBS stands to be a powerful tool to meet the needs of the connected consumer in the connected enterprise.

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