

Location Insight Monetization: What's Your Data Worth?

SOLUTION BRIEF

Indoor location insight services will be a key revenue opportunity for service providers.

Casa Systems' Apex™ multi-standard low power small cell and Axyom™ ultra-broadband edge platform are designed to help service providers capitalize on these opportunities.

Making decisions about mobile network investments to meet indoor coverage and capacity requirements in enterprise and public venue environments has always hinged on TCO, availability of backhaul and accessibility. Increasingly, these factors have become more favorable and now, indoor mobile business cases also include real revenue upside from value added services. What's changed?

Early small cell offerings from incumbent providers were much more expensive than service providers expected, particularly given the order of magnitude increase in the number of small cells required for equivalent coverage as compared to macro cell solutions. The backhaul required for those early offerings didn't take into account the realities of in-building assets. And, the industry as a whole had to learn how to deploy large numbers of small cells in the least intrusive, most cost-effective way.

Today, that's all changed. More competitive small cell solutions have come to market from companies like Casa Systems, that are challenging the status quo with small cells that are right sized, right priced, and leverage existing Ethernet for backhaul. But

the most significant change is the adoption of mobile edge computing (MEC) coupled with small cells. This combination opens doors for service providers to add revenue opportunities to their indoor coverage and capacity business cases, and realize a positive return on investment in record time.

New revenue streams from location insight services, RAN-aware content optimization, and IoT are accelerating small cell deployments around the globe. Casa Systems' Axyom ultra-broadband edge platform and Apex small cell are designed from the ground up with these opportunities in mind. A new approach to network function virtualization at the edge enables multi-dimensional optimization of latency, throughput and scale. Instead of virtualizing the security, small cell and Wi-Fi

gateway, and core functions as mere mirrors of their former physical selves, Casa has fundamentally rethought the processing required to ensure robust security, without sacrificing performance for the applications service providers offer today, and in the future. Coupled with Apex, our low-power, multi-standard small cell, Casa is helping service providers not just pave, but pay the way to 5G.

Indoor Location Insight Services

The ability to capture granular insights about the location and movement of users, particularly in indoor environments like malls, casinos and other venues, is a rich opportunity for service providers to provide managed or value-added services



Figure 1.

Revenue Opportunity

1. Mobile Ads

- Mobile phones display full screen ads, promotions, discount offers, or coupons ads when customers enter the mall
- Retail stores purchase ad space from the mall/service provider to target specific demographics

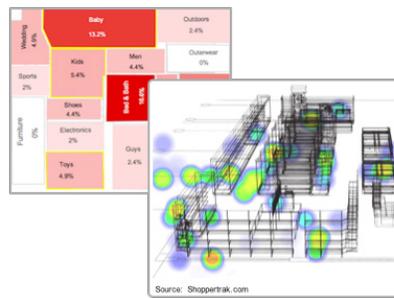


2. Managed Analytics Service for Malls

- Service providers provide managed analytics service that allows malls to optimize their pricing strategies

3. Managed Analytics Service for Retail Stores

- Service provider provides analytics service to retail stores on metrics such as dwell time, traffic and typical customer route



Expected Cost

1. CAPEX

- **MEC (Mobile Edge Computing)**
Price of the mobile edge computing hardware and the cost to install
- **Venue Set-up Cost**
Cost to set up the small cells within the mall including small cells hardware, installation and backhaul

2. OPEX

- **RAN Maintenance**
Cost to maintain and update the RAN
- **Backhaul Cost**
Cost to supply the small cells with the Ethernet capacity
- **Power Cost**
Cost to power the small cells

Note: there may be additional costs to develop and operate the mobile ad/analytics solution platform. The service provider may leverage existing capabilities, or they may choose to white label a third party solution

to enterprise or retail customers. The right balance between granularity of location information, anonymity and cost is important to the overall business case for such services. Capturing granular data and aggregating that data to assure anonymity optimizes service penetration with the value of the data captured. Casa's solution strikes that balance, and offers the deployment flexibility service providers need to profit from location insights, while protecting the core from signaling overload.

Use Case

Taking the case of a public indoor mall in the U.S., we analyzed several revenue opportunities for small cells and Axyom beyond end-user data charges. These opportunities are made possible by the ability to capture and aggregate location insights, including traffic patterns, dwell times and crowding. We also examined the costs service providers would incur to capitalize on those revenue opportunities, as shown in Figure 1.

Applying Casa's solution to a 1.2 million square foot mall, we modeled coverage needed to obtain location insights at the 100 square foot level – small enough for the data to be actionable, but also optimizing the number of cells required. Casa's Apex small cell is perfectly suited for this kind of application with its low-power output, plug-and-play installation, multi-standard access and affordable TCO. And, our Axyom solution provides the highest performance in the industry on a 1RU platform, making it ideal for on-premise deployment.

The results of the business case are impressive. In our illustrative deployment, the service provider would have a five-year NPV of \$3.5M with a payback period of less than one year. And, the customer relationship with the mall owner or storeowner would be deepened as those customers come to depend on the value the service provider adds to their businesses. End users are open to personalized offers as long as their privacy is assured, and both are feasible in this scenario since the location insight data is aggregated before being shared by the service provider.

This is just one example of the new opportunities made possible with the right small cell and Axyom combination. Casa Systems is ready to assist service providers with solutions designed for mobile network optimization, multi-dimensional performance and, perhaps most importantly, monetization.

Figure 2.

