

# Enabling actionable business intelligence in an Aruba Mobility Network environment



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A smartphone seeking a Wi-Fi network in a retail environment represents a customer engagement waiting to take place. Build out the right Wi-Fi network infrastructure and support it with the right Customer Experience Management (CEM) tools, and you gain access to actionable business intelligence that can change—for the better—the relationship you have with your customers.

With a Wi-Fi mobility network from Aruba Networks® and a CEM solution from Software AG, retailers can capture actionable business intelligence about the consumers entering the retail environment. You can learn how often shoppers come to your facility—even if they do not purchase anything—as well as where they go once they are there. You can engage consumers by allowing them to associate with your network and downloading an app that makes it easy for them to find stores, discover deals and receive personalized outreach that you can push their way, in real-time, as they move through—or dwell—in different parts of your environment.

Indeed, once the consumer accepts your invitation to associate with your network—and with better access to the Internet and less use of their wireless data plans, there's every reason to want such an association, even if they are unaware of other advantages—the combination of the Aruba network infrastructure and a Software AG CEM solution puts you in a position to engage with consumers in new, highly targeted and very personal ways.

This white paper will explore some of those ways. It is not intended to be an exhaustive list of the opportunities or the benefits arising from these engagements. Rather, it is intended to open a conversation about possibilities that could lead to a stronger competitive advantage, more intimate and durable relationships with your best customers, and to increased revenues and profits for your enterprise.

## An overview of the opportunity

Every smartphone, every tablet, indeed, every device that enters a retail environment and probes for a Wi-Fi signal screams out an invitation to learn about and to engage with a customer. The invitation initially takes the form of a simple network probe request: The device is looking for a network with which to associate. But for the network owner possessing the right combination of network, analytical and CEM tools, that probe request can connect a device to a customer, to a rich history of past engagements with this customer, to loyalty programs and preferential discounts, personalized engagement opportunities and more.

“Presence” information can provide insights into the dynamics of traffic flow through a retail environment and customer interests based on the displays to which he returns or the sections where she lingers. If she logs into the network, further insights can be discovered in opportunities for personalized price-matching offers delivered in real-time when a customer considering your merchandise pulls out her phone to compare prices on Amazon.com®.

Gaining access into these insights, taking advantage of the opportunities in real-time, and delivering a better customer experience mandates a Wi-Fi infrastructure and customer experience management solution that work closely together and that have been architected to deliver this kind of insight.

That’s where a total CEM solution from Software AG and Aruba Networks® makes the difference.

## Building out a complete solution for extracting business intelligence

As a rule, the value of business intelligence is directly related to the infrastructure required to extract it. The higher the value, the more sophisticated the infrastructure that’s required to mine it. This relationship is depicted in Figure 1.

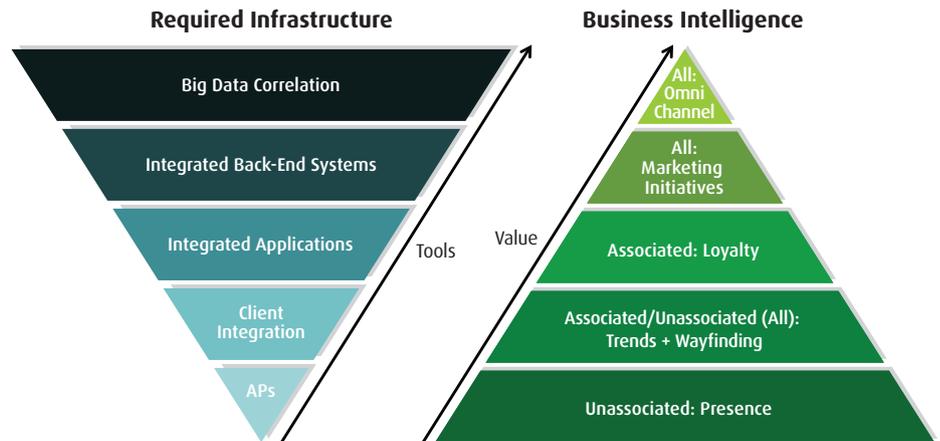


Figure 1: Infrastructure required to obtain different levels of business intelligence. (C) 2014 Aruba Networks, Inc. All rights reserved.

## Presence: The foundation of insight

When a smartphone, a tablet or one of the new generations of wearable devices comes within range of an Aruba Wi-Fi mobility network, it sends out what is known as a probe request. The Aruba network can capture that information, as well as data from devices that connect to the Wi-Fi network, and make them available to the Software AG CEM solution, where it can be subjected to analysis. A network owner can gain insight into traffic flows, customer dwell times, frequency and recency of visits. A horizontal analysis of presence data may reveal patterns that had not previously been evident—or confirm patterns that had long been suspected. With knowledge of where shoppers are moving and congregating, mall owners can base lease rates on quantifiable data while simultaneously giving a prospective tenant a realistic idea of the kind of traffic a given location can expect to see.

## Wayfinding: Gaining more insight and more opportunity

If the device connects to the Wi-Fi network then the business owner can engage with the consumer in a variety of ways. Consider “wayfinding.” Meridian, the Aruba wayfinding application, acts like an indoor GPS system. As a condition of connecting to the network, a network owner might require the user to download and install the Meridian wayfinding application. There’s an obvious advantage in doing this for the consumer: The Meridian app can interact with the network and tell a user precisely where they are in the environment—which is handy for the user when in an unfamiliar space. If the user has a distinct destination in mind, the Meridian app can show them the fastest way to get to that destination.

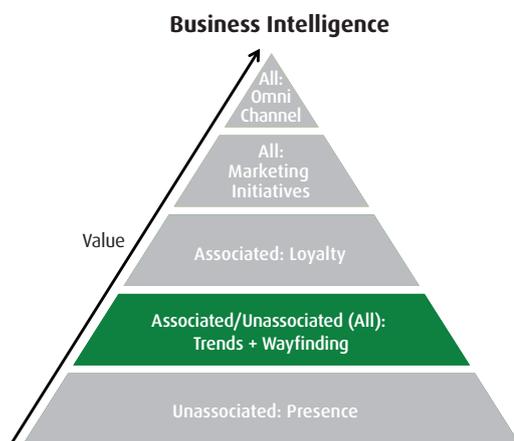


Figure 2: Gaining greater insight through wayfinding. (C) 2014 Aruba Networks, Inc. All rights reserved.

Of course, the Meridian app can do much more than that. If the consumer needs directions to a certain department store in a mall, for example, the app can provide not only the directions to that store but also an ad or a coupon from that store that the consumer might be able to use. The Software AG CEM solution can take that interaction even further, capturing and consolidating that information within an evolving customer profile to gain even greater insight into the customer’s journey. The CEM solution might, for example, indicate that the customer had browsed the Internet looking for a TV from their home that morning. We already know that the customer drove to the retail store and entered the store. From a real-time analysis of that consumer’s dwell time, we know that the customer has spent a lot of time in the TV section of the store. If the customer walks out of a store, we can also tell that they left the store without having purchased anything because the CEM solution can be integrated with the store’s Point Of Sale (POS) system.

If this were a car dealership, having a customer walk out empty-handed would have been a car dealer's worst nightmare. Fortunately, the combination Aruba and Software AG CEM solution can detect this scenario and enable a retailer to do something about it: send the customer a real-time offer tailored to bring them back into the store.

## Fostering loyalty programs: A more personal customer engagement

With a more sophisticated interplay between the Aruba network and the Software AG CEM solution, a network owner can take the connection to the consumer well beyond the kind of interactions associated with wayfinding. By configuring the Software AG CEM solution to pull in and analyze consumer data from a wider range of information sources, such as your Customer Relationship Management (CRM) solution, POS system or from other information sources—all in real-time, of course—the possibilities for customer engagement become even more exciting.

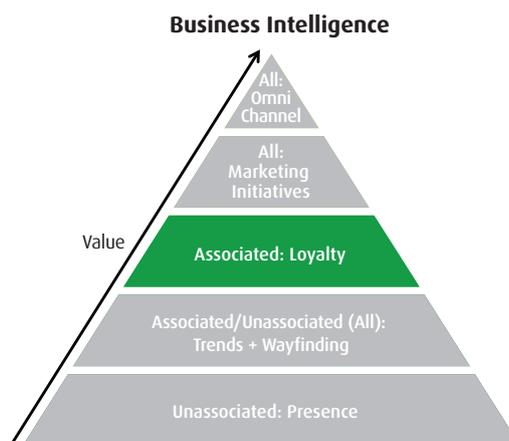


Figure 3: Engaging customers through loyalty programs. (C) 2014 Aruba Networks, Inc. All rights reserved.

Imagine being able to receive an alert telling you that one of your most valued customers has just entered the store—simply because her phone- or the Meridian wayfinding app - connected to the Aruba network which passed data to the Software AG CEM solution. The software can present the history of your interactions with the customer: their shopping history from the POS system, their stated preferences and more. The predictive analytics tools in the CEM solution might even suggest why the customer has arrived on that day and what they might be shopping for. The system might send that shopper highly personalized promotions or coupons; it might even alert floor managers to the arrival of the customer so that your team can anticipate her arrival and greet her accordingly.

Of course, the same tools that identify your most loyal and valued shoppers can also help you discover new loyal shoppers. The analytics within Software AG CEM can consider all the data sources with which the solution is integrated and help you see which shoppers are returning more frequently than you imagined but not spending much money. The solution might invite them to join a more exclusive circle of loyal customers in an effort to expand that cadre of customers that contributes most to your enterprise's profitability.

What's required to support such a loyalty program? Aruba Wi-Fi infrastructure, the Meridian wayfinding app, and Aruba's ClearPass on-board services through which users can opt-in to the loyalty services, for starters. The Software AG CEM solution would need to be tied into your organization's POS and CRM systems. In this way, the full history of customer interactions can be incorporated into the real-time engagement with the customer as they arrive on site. Such a solution requires a greater investment than wayfinding, to be sure, but because you are investing in the relationship you have with your most important customers, it is an investment that is likely to pay off well.

## Geofencing: Fine-tuning the customer experience still further

Thus far, we have described types of customer engagements that are triggered by presence and position information at a relatively high level. Presence information captured from the Aruba access points can identify a device and the time it arrived. An analysis of Wi-Fi signals can provide insight into the movement of that device through the retail space.

Geofencing adds another layer of sophistication and granularity to these interactions. By expanding the customer engagement infrastructure—the network and the hardware/software infrastructure—to incorporate geofencing technologies, it becomes possible for a network owner to engage with the customer in different ways from the instant the customer moves into specifically defined areas. A network owner might establish a geofence perimeter around a specific parking area, for example, and cause the Software AG CEM solution to send the Meridian app a parking voucher as soon as high value customers enter that parking lot. Or it might send a personalized discount offer to a high value customer’s Meridian app the moment they near the jewelry section of the store.



Figure 4: Increase business intelligence and improve the customer experience through geofencing. (C) 2014 Aruba Networks, Inc. All rights reserved.

Geofencing software code is embedded inside the Meridian app a user has downloaded to their mobile device. The Meridian app is triggered whenever the device holder crosses a boundary defined by the retailer. A dashboard within the Software AG CEM solution provides real-time visibility into the volume of customer traffic for the different departments within a retail store. This provides valuable insight into real-time interest for certain products, which can, in turn, drive real-time promotions. It also provides valuable insight into areas of the store that are not as popular, enabling a retailer to reconsider how those sections are set up in order to drive more traffic toward them. Finally, it is worth noting that geofence boundaries in the Meridian app can be based on Wi-Fi and GPS coordinates. The retailer that sends the personalized discount offer to the customer nearing the jewelry counter in the store might send an even more attractive offer if the geofencing software reports to the CEM solution that the customer is near a competitor’s jewelry counter across town.

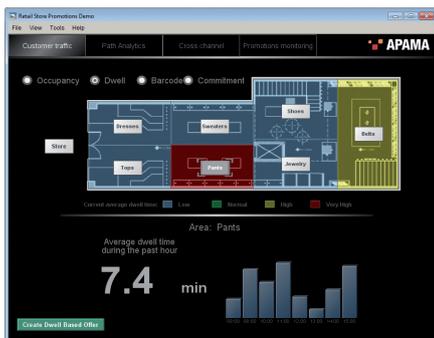


Figure 5: The Software AG CEM solution generates valuable analytics about geofenced areas, including customer traffic and dwell times. Heat maps and real-time traffic graphs make it easy to see what’s busy at any moment.

## Building out the solution you need today—and tomorrow

As you can see, the options for retailers seeking to engage with consumers in more personal and meaningful ways run the gamut. It is relatively easy to bring together the network resources from Aruba and the software resources from Software AG to create an infrastructure that can quickly yield valuable insights built on presence information. Gathering more information and associating that information with a variety of actions—from wayfinding to the more personalized interactions associated with loyalty programs and geofencing—involve more complex deployments but also present greater opportunities. The apex of the value pyramid—the cross-channel solution—involves the most sophisticated network components from Aruba and the most sophisticated CEM solutions from Software AG.

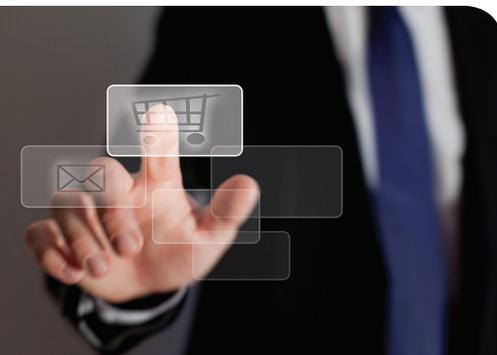
One advantage of addressing these opportunities with Aruba and Software AG, though, is this: You can build out the solution you need today without precluding the expansion of that system to meet additional needs tomorrow. For example, if you build with an eye towards presence in the near term, you can build upon that foundation to support wayfinding or loyalty programs in the longer term.

With a Software AG CEM solution, the essential services you would need to support a wider range of the functions described in this paper are already present, even if you only deploy to gain access to the presence information. As you expand to take advantage of higher order services, the additional software functionality required by those services needs only to be turned on and configured. The APIs are already exposed to facilitate interaction between CEM solution components, such as BigMemory or Apama, and enterprise systems that may already be in place within the retailer’s infrastructure (such as the retailer’s existing CRM system).

Put another way, a retailer that invests in a CEM solution from Apama and Software AG will not find “rip-and-replace” in the plan of record in which solution evolution is concerned. It can scale to accommodate an ever-growing number of smartphones, tablets and other Wi-Fi-enabled devices. It relies on in-memory computing technologies that can be scaled to ensure real-time analytical processing and customer outreach, even when dealing with interactions involving large numbers of consumers. And as for services? Software AG and Aruba can provide the full range of deployment and professional services required to roll out and support a full-featured solution designed to enable actionable business intelligence in the retail environment.

For more information about enabling actionable business intelligence in an Aruba mobility network environment, contact Software AG today.

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