Intel® Smart Edge : Marketing Technology for Retail

Brick and mortar retailers, as well as venue operators, are under a tremendous amount of pressure to improve customer experiences, enhance digital awareness and drive sales.

Executive Summary

To fully recognize these benefits, a completely new approach to location management must be taken. This includes, but is not limited to, the automated recognition of customers, correlation of identity to online sources of information and the presentation of experiences and offers to match.
To fully recognize the potential impact to sales, the retail experience must capitalize on customer presence and their attention, since time is the consumer's most valuable asset.
In addition, information gathered through data collection at the premises, whether anonymously or through opt-in selection, provides consumer goods companies and marketers with a rich source of inciteful data.
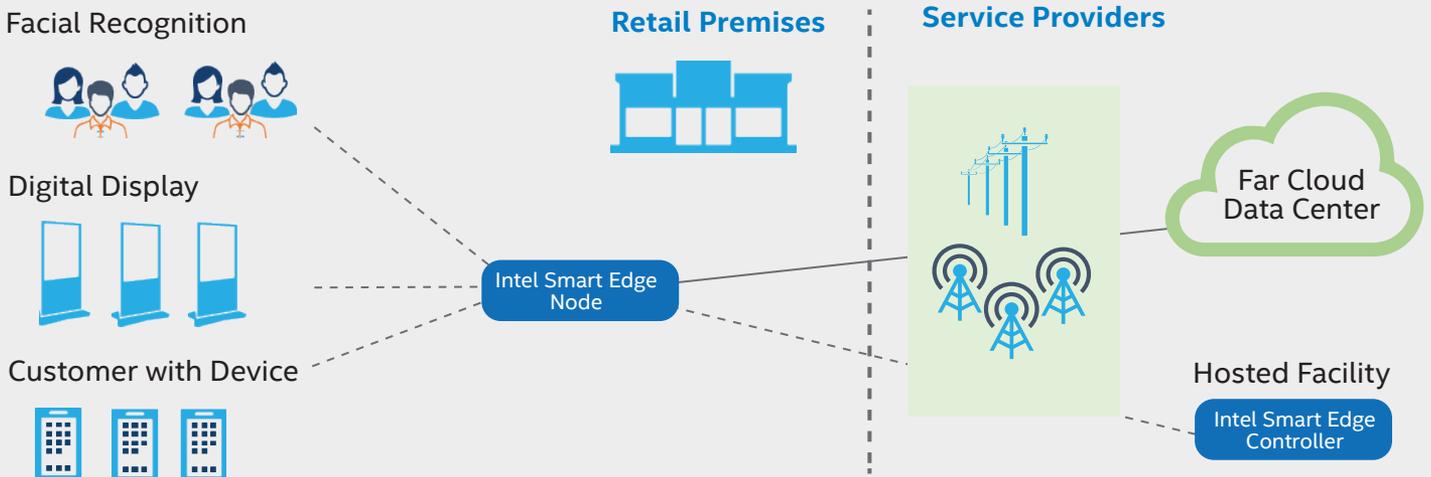
Customer Needs

The retail experience requires an upgrade to more closely match that of the online journey that consumers have grown to expect. The ability to correlate a visiting customer to loyalty programs, buying histories and potential products of interest remains a critical building block to making this happen. Some of the key elements and applications driving this change include:

- **Facial Recognition.** As retailers seek to draw customers closer, identifying those customers in real-time is a critical element of success. When a customer opts-in to such loyalty programs, the entire shopping experience can then be transformed to a frictionless and personalized experience. Timely video analytics provide the bedrock for these applications.

- **Loyalty Programs.** Currently the connection between customer and loyalty program takes place at checkout. This traditional approach does not enable an optimum experience for the customer. The pile of coupons it provides, often times on the back of the receipts, simply winds up in the trash. The ability to recognize the customer on entry and tie that to a captured profile allows for the customization of offers to suit the individual while they are in the shop.

- **Interactive Kiosk.** Further leveraging the information from facial recognition and loyalty applications, items of interest can be delivered to the customer through interactive electronic kiosks. Indeed, special offers may also be part of this experience, leaving the customer to shop while their order is prepared and delivered to a pickup station.

- **Display Advertising.** Building on all the capabilities mentioned above, in-store display advertising can be customized for specific shoppers or product lines based on who is in the store at the time. Such advertisements maximize customer experience while providing the venue to sell additional product.

Proposed Solution

The Intel® Smart Edge platform has the ability to connect all premise devices and applications over a robust carrier-class private wireless network to local compute and storage on the premise. Should far cloud resources or public carrier services be required solution elements, access to those service providers is further enabled and governed by the Intel® Smart Edge node. The diagram below provides a simple reference for the topology:

Facial Recognition

Digital Display

Customer with Device

Retail Premises

Intel Smart Edge Node

Service Providers

Far Cloud Data Center

Hosted Facility

Intel Smart Edge Controller

Benefits & Outcomes

The key high-level benefits of the Intel® Smart Edge solution to a Marketing Technology application include:

- Real time customer recognition
- Correlation of loyalty application data
- Custom display advertisements
- Responsive local compute and storage

A comprehensive edge compute solution is comprised of both software and world-class hardware technologies from Intel. The Intel® Smart Edge platform provides complete application life-cycle services for the network edge. This enables simple one-click deployment of applications as well as the zero-trust security paradigm required to on-board devices and protect resources from undesired access. Through a comprehensive set of deployment and management tools, this software enables any retail concern to implement a venue of the future. Only devices identified by policy have access to the network thereby ensuring high performance and secure operation. Local hosting of applications provides sub-millisecond access to compute and storage within the premise by authorized devices.

In addition to Intel Smart Edge software, Intel® Xeon® processor-based servers provide world-class embedded technologies for operationalizing and securing the network and compute edge. As an example, Secure Device Onboard ensures automated deployment of endpoint devices enabling a chain of trust between them and other resources. In addition, Intel® Software Guard Extensions increases the security of application code and data, giving them more protection from disclosure or modification. This composed solution from Intel provides the most secure, high-performance edge compute framework in the industry for marketing technology applications.

.

Find more information

To learn more about the Intel Smart Edge solution, please contact us at smartedge@intel.com.