Solution Brief

**Embedded Intel®
Architecture Processors**

Intel® Audience Impression
Metric Suite (Intel® AIM Suite)

Embedded Computing

Maximizing Digital Signage Effectiveness and ROI

Intel's Anonymous Video Analytics Solution Advances Digital Signage Intelligence

What you can measure, you can improve and optimize. Using Intel® Audience Impression Metric (Intel® AIM Suite) technology, digital signage networks can now be used to gauge the effectiveness of their content by measuring how much time people spend looking at displays and determining the effectiveness of advertisements at capturing the attention of an audience. This information allows brands and retailers to tailor advertising content based on audience behavior and characteristics, helping to show the right message to the right people at the right time. Intel AIM Suite makes it possible for advertisers to measure and maximize the return on investment (ROI) and return on objectives (ROO) for their digital signage campaigns.

The underlying technology for Intel AIM Suite is called Anonymous Video Analytics (AVA), which utilizes Intel® processors and small optical devices connected to a digital sign. Intel AIM Suite software utilizes anonymous face-detection algorithms to aggregate data on how many people looked at the advertising, how long they watched, and their demographics (e.g., gender and age bracket). It does all of this while maintaining total anonymity and complete respect for people's privacy as outlined in the 7 Foundational Principles of Privacy by Design.[1]

With Intel AIM Suite capability, the effectiveness and ROI of digital signage can be increased by dynamically changing advertising content to better fit the interests of those viewing the display. This targeted advertising approach is enabled by powerful Intel® Core™ i5 and Intel® Core™ i7 processors, which can run the advanced AVA application while simultaneously playing high-definition video content; the capability to run Intel AIM Suite on the same computer system as the content management system (CMS) significantly minimizes infrastructure costs. Additionally, providing analytics from a web-based reporting system, which stores data in the cloud, further reduces requirements for setting up and maintaining costly servers.
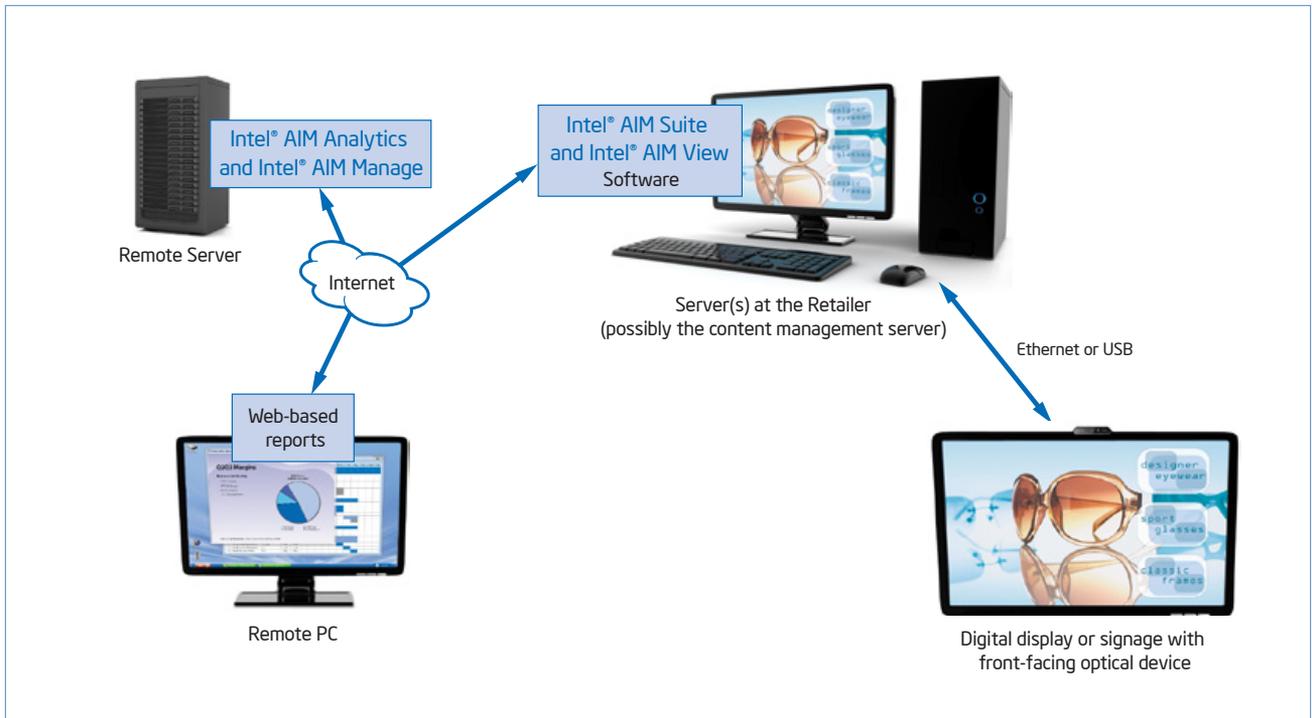
Figure 1. Network configuration example

Audience Impression Metrics

Intel AIM Suite capability helps digital signage networks become measured, thereby allowing advertisers to maximize the ROI of their campaigns. This solution, as illustrated in Figure 1, comprises four elements:

- **Intel® AIM Suite** – The master control application for the AVA solution. It manages instances of Intel® AIM View and uploads data to Intel® AIM Analytics.

- **Intel® AIM View** – Intel AIM Suite's face-detection technology module. The software analyzes a video stream from an optical device and detects faces of people viewing the digital signage display, providing information on the number of viewers and their demographics, viewed content, and dwell time.

- **Intel® AIM Analytics** – Web-based reporting system. This cloud-based service provides advertisers and digital signage networks with a secure means to view their data, generate reports, and enable automated e-mail reports.

- **Intel® AIM Manage** – Web-based license and sensor management system. This cloud-based system remotely manages all computers running Intel AIM Suite.

For more information, see www.intel.com/go/digitalsignage.

Intel AIM Suite and Intel AIM View run best on Intel® architecture-based computers, which may be the same machines that support content management system applications. Intel AIM Analytics and Intel AIM Manage are hosted and managed by Intel.

Benefits to Digital Signage Networks

- **Low initial investment** – software can run on existing computers

- **Fast deployment** – users access cloud-based analytics tools

- **High performance** – the solution is optimized for Intel processors

- **Scalability** – businesses can start small and grow as needed

- **Green** – displays can dim or turn off automatically if no viewers are detected for an extended period of time

- **Flexibility** – real-time socket-based API and HTTP reporting APIs simplify integration with third-party content management system (CMS) vendors

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