Savanna™ Location Engine

Today, innovation is exploding on the edge of the enterprise—where businesses, their people, and their products meet the customers they serve. Digital transformation is redefining how the world interacts and connects, and how individuals experience products, services, and businesses. Businesses are faced with the challenge of accelerating their operations—maximizing business productivity and moving towards automation—to deliver products and experiences more quickly and effectively than ever before.

This new breed of innovation is creating a massive proliferation of edge data—data that creates incredible opportunities for businesses to optimize in-motion operations and transform their business—but many find it challenging to translate this edge data abundance into actionable intelligence.

Zebra's Savanna data intelligence platform aggregates and analyzes raw edge data from Zebra products and intelligent infrastructure, as well as select 3rd party devices, to deliver real-time insights. Using data collection, analytics, artificial intelligence and machine learning, Savanna powers next-gen applications and solutions to create data-powered environments and guide real-time actions. Savanna integrates into current infrastructure, leveraging existing hardware, software, systems of record and data ecosystems to create a holistic enterprise perspective, making businesses smarter and more profitable.

Savanna Location Engine – at the Core of Zebra MotionWorks Location Solutions

Zebra MotionWorks™ location solutions give businesses the ability to use automated data collection to attain actionable insights and vital solutions from the location, state and sense data of tagged enterprise resources. By using hardware to capture data (including Zebra's many sensing, tagging, and mobility technologies, as well as popular third-party technologies), MotionWorks deploys some of the world's largest and most successful automated resource tracking and management

solutions—across industries, and for some the world's largest companies. The Savanna Location Engine is an integrated software package for on-premise deployment, featuring a console with reports, maps, alerts, and dashboards at the enterprise resource level. Using proven algorithms and rules engines it derives actionable information and business context from the location data being gathered, and provides a common set of outputs to share with applications that need this data. And the application layer then integrates and/or interfaces with multiple customer, 3rd party or enterprise applications through open standard protocols and APIs.

Actionable Intelligence at Your Fingertips

The Savanna Location Engine provides all the tools required to design, configure, operate, provision, and troubleshoot an auto-ID system with central administration and control for your entire enterprise. It delivers a common, unified set of outputs that can be used to feed applications that need the location, path, interactions, dwell time, telemetry, and other sensed data from a customer's "resources." Those resources can vary from workers, to customers, and from assets, to work in process material to supplies. That information can be stored and persisted, can be forwarded to other systems and subscribers, and can be saved locally for later lookup or access of "last-known" or historic data. Having real-time-location-system (RTLS) data enables much of the functionality needed for a full asset management application. The Savanna Location Engine's ability to incorporate business-specific rules about how to best process the location and motion data to provide actionable intelligence information enables the rest.

Track and Manage Your Entire Enterprise

The Savanna Location Engine is a cluster-able, fault-tolerant, highly available server-side application for tracking and managing resources across an entire enterprise, from a single location to sites across the globe. The system services are split across multiple virtual or physical machines to optimize data collection bandwidth and central administration and reporting. Typically, resource management, business process rules engine, alerting, and event processing run on one server, while Infrastructure control to manage the data collection network runs on another. The internal database and some other services can be split onto other servers if needed for even higher performance. Location processing, and device health and status monitoring run on one or more dedicated Zebra Locate Appliances (ZLAs) that are managed by the server software as part of the overall solution. In some cases, the solution designer may choose to install the Savanna Location Engine's core servers in a central data center and the ZLA on site at the operating facility (factory, warehouse, office, etc.). The ZLA also provides filtering, smoothing, buffering of the collected data, health and status detection, logging, and reliability protocols. The core server software provides management of the data collection system, reporting and administration of the tracked resources, such as people, assets, material, as well as administration of the tags and labels used to track those resources.

Savanna Location Engine provides the tools required to control and monitor the location sensing technologies, including configuration, diagnostics, system alerts, health monitors, and installation tools. The alert system allows users to define their own alerts and configure email and other notifications.

For integration into existing systems, a full REST API is available, as well as an XML event publisher that allows subscribers to transform outputs from each of the available streams and formats.

Some of the technologies that can be centrally routed and reported on through the Savanna Location Engine include:

- MPact Beacons - Bluetooth low energy technology
- Mobile devices running the MotionWorks SDK for Android
- Mobile devices running the MotionWorks SDK for iOS
- Zebra DART Ultra Wideband RTLS
- Zebra WhereNet Real Time Locating System (RTLS)
- Zebra WhereNet Push-Button messaging
- EPC Gen2 compliant passive RFID
- Zebra ISO 24730 Magnetic beacons
- GPS devices using the MotionWorks SDK or REST API

Benefits:

- Consolidate multiple Auto ID technologies through one middleware stack
- Single consolidated view for multiple technologies
- Automate entry/exit points
- Reduce search time
- Enable wireless messaging
- Provide time, dwell, and location data for your assets
- Provide alerts for exceptions to business rules
- Integrate with Execution Management or Warehouse Management Systems

For more information, visit www.zebra.com/locationtechnologies

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