Product Description
AeroScout Location Engine is a software layer of the AeroScout Visibility System, which delivers Unified Asset Visibility applications to healthcare, manufacturing and other industries. The AeroScout Location Engine receives information from Wi-Fi-based Active RFID Tags and standard Wi-Fi networking devices, and applies multiple complex algorithms to produce highly accurate and reliable location and status data in both indoor and outdoor environments. The sophisticated processing abilities, multiple visibility modes and WLAN compatibility of the AeroScout Location Engine make it a key component of the most complete and scalable Visibility solution on the market.

Key Benefits
Unified Asset Visibility to suit all needs:
The AeroScout Location Engine uniquely processes multiple forms of wireless location and status data over a single, unified infrastructure: accurate real-time location indoors and outdoors, presence detection, egress-point visibility, sensor capabilities and more.

Architecture
The AeroScout Location Engine can run on either a physical appliance or as a virtual machine.

Standard Wi-Fi infrastructure:
The AeroScout system utilizes standard wireless networks, keeping costs low and enabling enterprises to gain more benefit from their existing WLAN. Through integration between the AeroScout Location Engine and all major WLAN vendors, customers can use standard Wi-Fi infrastructure as Active RFID readers to determine location and status – no additional hardware is required.

Visibility of any valuable asset:
The AeroScout Location Engine’s advanced algorithms offer the industry’s most accurate asset location determination. Small, battery-powered AeroScout Tags can be used to track people and a variety of assets and equipment, and standard Wi-Fi client devices such as laptops and tablets can be located as well.

Integrated sensor and telemetry capability:
The AeroScout Location Engine processes sensor data received wirelessly from AeroScout tags. Built in options include motion, temperature, humidity and voltage sensors. Wired device telemetry capabilities also exist, using a tag interface, extending wireless communication of a wide range of status information to devices without inbuilt wireless functionality.

Enterprise software for asset tracking:
The AeroScout Location Engine interfaces directly with AeroScout’s MobileView application platform for delivering and integrating enterprise-class visibility applications.

Accurate, reliable indoor and outdoor location:
AeroScout uniquely provides real-time location based on the Received Signal Strength Indication (RSSI) method. This enables accurate location determination in indoor environments, such as Healthcare facilities and industrial environments.

Advanced visibility capabilities:
In addition to Wi-Fi based real-time location, the AeroScout Location Engine can process a variety of other location and visibility data. This includes immediate egress point detection using AeroScout Exciters, as well as outdoor location based on GPS technology. These capabilities enable a wide range of applications to meet specific industry and customer needs.
Key Functionality

Location Determination
- Processing and analysis of signal strength, time-of-arrival and presence data returned from standard Wi-Fi Access Points or AeroScout Location Receivers
- Patented dynamic online synchronization scheme to ensure accuracy
- Patented multi-path reduction algorithms that significantly reduce errors from signal reflections.
- Floor separation capability for multi-floor installations
- Industry’s leading proven Wi-Fi location accuracy, typically 3-5 meters, depending on the environment
- Fully integrated and tested with all major enterprise WLAN systems, with no proprietary upgrades required
- Automatic calibration functionality delivers constantly improving location accuracy as well as providing real-time adjustment to physical changes in the monitored zone

Management
- Centralized management, analysis and configuration of multiple applications and visibility modes and all AeroScout hardware
- On-demand location request processing for client applications
- Event management tool for configuring system and application level events, including alerting and notification
- Intuitive graphical user interface (GUI) for management of asset location and presence data

Additional Features
- Map import and setup functions.
- Centralized wireless firmware upgrades to infrastructure devices
- AeroScout Analyzer sophisticated software tool for analysis of location accuracy, Wi-Fi coverage and system diagnosis
- Ability to process sensors, telemetry and other advanced data retrieved and transmitted by tags
- Graphical installation tool for easy, intuitive system setup and performance management
- Easy integration with existing and custom context-aware applications
- Ability to remotely trigger tag identification (making LED blink, etc.)
- High-availability failover mechanism

AeroScout Engine Manager Components
- AeroScout Location Engine 5.0 brings together System Manager and System Analyzer into a single user interface. The new interface introduces intuitive menu commands quickly accessed via the ‘Browse Tree’. AeroScout Location Engine 5.0 also extends the capabilities of the AeroScout Asset Visibility System, supporting recent solutions for Infant protection and enhancing accuracy and coverage of solutions requiring room level separation.

System Configuration
- The main administration and configuration tasks are centralized in this module. Site maps are imported and managed through this module. Other management tasks include setting up the system topology and configuring remote infrastructure.

Coverage Analyzer
- This is an analysis module providing Received Signal Strength, Synchronization Source and Coverage Density analysis based on recording files.

Accuracy Analyzer
- This is an analysis module providing Accuracy Map, Tracking and Map Separation analysis based on recording files.

Radio Map Generator
- This module enables you to generate, adjust and analyze Radio Maps. Radio Map analysis options are Radio Map Ambiguity and Radio Map Visualization analysis.

System Diagnostics
- This module is designed to analyze configurations and recordings, and pinpoint errors that are otherwise difficult to detect.

Engine Traffic Log
- This module enables you to display the data contained in the recording files. The Engine Traffic Log displays the data stored in the file across readable fields, allowing analysis of the information.