Asset Manager

RF Code™ Software

Asset Manager provides a flexible and robust platform for asset management and wire-free sensor monitoring. This enterprise-wide solution is adaptable to varied environments such as data centers, IT closets, buildings, and branch offices as well as various industrial applications.

Features & Benefits

- *Flexible configuration*
- *Robust architecture*
- *Ease of Use*
- *User define-able data schema*
- *Asset Life Cycle Management*
- *Wire-free Sensor Management*
- *Web based user interface*
- *Mobile application support*
- *Multiple database support*
- *Real-time data access*
- *Historical data mining*
- *Thresholds & Alerts*

Asset Manager is a powerful enterprise platform designed for maximum flexibility. Asset Manager is designed to compliment RF Code's active RFID hardware for asset tracking and environmental monitoring. The result is a robust solution for asset management or environmental monitoring or a combination of both. The flexibility of Asset Manager enables it be deployed in a wide variety of uses from data centers and data closets to buildings and branch offices as well as industrial solutions like manufacturing. Asset Manager's adaptability and ease of use enables a fast return on investment while complimenting other business systems.

Robust Architecture

Asset Manager is highly scalable and is capable of supporting a small deployment from a few hundred assets and sensors as well as enterprise wide deployments involving hundreds of thousands of assets and tens of thousands of sensors. Asset Manager's two-tier architecture, incorporating RF Code's Zone Manager easily supports geographically distributed deployments across multiple buildings, sites, cities and even continents.

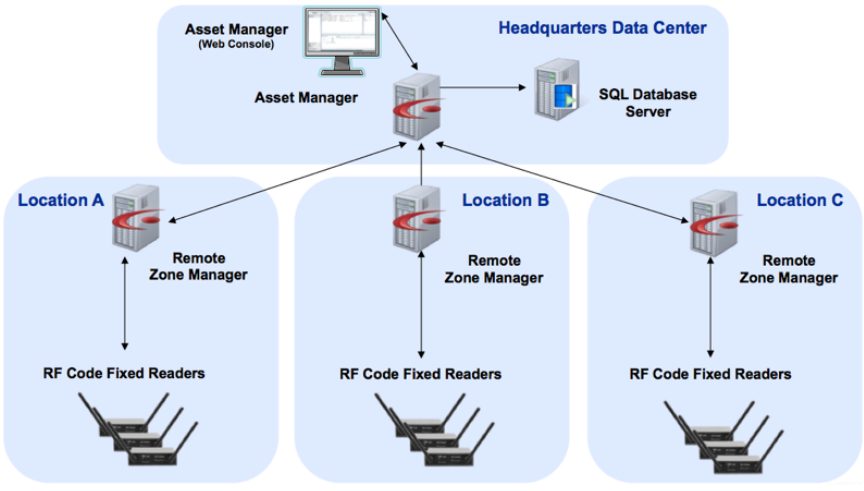
Asset Manager is a Java based application that can run on both Microsoft Windows and Linux while utilizing standard SQL servers for data storage. As computing and storage needs grow, Asset Manager can be easily relocated to larger and more powerful hardware enabling exponential growth with ease.

Ease of Use

The Asset Manager Consoles provide sophisticated yet simple Web 2.0 type graphical user interface that only requires a standard web browser. The Asset Manager Administration Console enables systems administrators to easily configure every aspect of the solution: hardware and software. The Asset Manager User Console enables system users to quickly access both real-time and historical information about assets and sensors. If a specific feature or view is utilized often, it can be easily bookmarked enabling fast access at any time. Finally the Asset Manager Consoles are fully customizable based on the needs and desires of the user.

Database and Schema Flexibility

The heart of Asset Manager is its flexible data object engine that allows the administrator to fully customize the data schema. By default RF Code provides robust data schemas; however, these can be easily changed or totally replaced based upon the needs of the deployment. Using the graphical data schema editor, administrators can customize the asset and sensor types as well as the attributes associated to each individual asset type. Attributes can be strings, numbers, dates, single selection lists, multi-selection lists and even binary data objects such as PDF's and pictures. Attributes can be



Asset Manager's robust two-tier architecture.

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configured as required or optional. In addition, Asset Manager can keep track of all historical values on an attribute-by-attribute basis.

Asset Manager utilizes SQL databases for storing all configuration and data. Asset Manager supports both local and remote SQL servers enabling maximum deployment flexibility. The following database servers are supported:

- Microsoft SQL Server
- PostgreSQL
- IBM DB2

Real-time Data Access

Asset Manager provides a wide variety of ways to view information in a real-time format. A simple, yet powerful, Table View enables users to filter out undesired data and only display the information needed. The data can be filtered by asset or sensor type, location, and attributes. Users can hide or display specific columns as well as order or sort the data in the columns just like a spreadsheet. However, unlike a spreadsheet the data is "live" and updates to the information will occur automatically.

From the Table View, users can quickly access the interactive graphing feature. By simply clicking on the desired column, an historical line graph will be displayed. The interactive graphing capability allows for multiple assets and sensors and attributes to be displayed simultaneously. Furthermore, the graph is fully interactive enabling users to drill down or zoom in for more details. Hover help shows the details (date, time, and value) of any point of the graph.

The Map View allows for customized map images to be displayed and overlaid with "live" information from the Asset Manager system. Multiple Map Views can be created for each defined location and can be linked allowing the easy navigation from one Map View to the next.

Dashboards provide a unique way to summarize and display critical asset or sensor information. Asset Manager provides a graphical dashboard editor for creating and customizing dashboards. Dashboards support a wide variety of widgets to graphically represent the data such as line graphs, bar graphs, dials, gauges, indicator lights, etc. There is no limit on the number of Dashboards that can be created.

Historical Data Mining

Asset Manager's Graphs and Reports feature allows for full historical mining and searching of any attribute defined in the system. Reports can be defined to run on a scheduled basis and output data in PDF and CSV formats. Scheduled reports can be easily emailed to the appropriate target audience. The graphical report editor allows for filtering out unimportant data and determining which columns to display and in what order. The Graphs feature supports all of the same capabilities as Reports but the output is a bar or line graph.

Integration Modules & Open API

While Asset Manager can be utilized as a standalone system, it was designed to be an open platform with a wide variety of integration capabilities. Customers typically find that the information gathered by Asset Manager is beneficial to multiple other business systems. To facilitate this information sharing, RF Code provides a number of integration modules that allow data to flow in and out of Asset Manager. Quite a few RF Code Partners have also developed integration modules for Asset Manager.

In addition to off-the-shelf integration modules, Asset Manager has an open and published application-programming interface (API). The API is a REST based model utilizing URLs that accept and return XML and JSON data. The API's are easy to utilize in both scripts and advanced programming languages such as Java and C#. The API's provide for pulling information out of Asset Manager as well as inserting new information into Asset Manager.

RF Code Asset Manager Specifications

ASSET MANAGER COMPONENTS

Both components of Asset Manager (Data Manager & Zone Manager) can run on a single server and this is the default installation. Additional Zone Managers can be installed on remote systems.

OPERATING SYSTEM SUPPORT

Data Manager component	Windows Server 2003 (64 bit only), Windows Server 2008 (64 bit only)
Zone Manager component	RedHat Enterprise Linux version 5 (32 bit & 64 bit), Fedora Core Server version 7 (32 bit & 64 bit), Windows XP Server, Windows Server 2003 (32 bit & 64 bit), Windows Server 2008 (32 bit & 64 bit)

ENTERPRISE CONSOLE WEB BROWSER SUPPORT

The Enterprise Console is supported for use with Firefox 3 and Internet Explorer 8 running on Windows XP or Vista.

SQL DATABASE SUPPORT

PostgreSQL version 8.3 (and higher)	• Local on Linux • Remote on Linux Server or Windows Server
Microsoft SQL Server 2008	• Local or remote on a Windows Server.
Microsoft SQL Server 2008 Express	• Local on Windows Server • Remote on a Windows Server • Not suitable for large-scale / production systems

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