

A real-time location engine designed specifically for use with RF Code's asset tracking and wire-free environmental monitoring solutions.

Features & Benefits

- ◆ **Powerful real-time middleware engine**
- ◆ **Works with RF Code asset tags and sensor tags**
- ◆ **Easy to use API in two formats:**
 - ◆ Telnet API interface
 - ◆ Web API interface
- ◆ **Java application (runs on both Windows and Linux)**
- ◆ **XML, JSON, or CSV output allows for easy programmatic data parsing**
- ◆ **Highly scalable**
- ◆ **Supports UpConnect**
- ◆ **Web 2.0 based administration GUI**
- ◆ **User configurable rules based engine for determining precise location**
- ◆ **Standard integration with IBM, Microsoft, and APC NetBotz**

Zone Manager is designed to be integrated with one or more business applications via its open application programming interface (API). Zone Manager handles all of the direct hardware interfaces for RF Code readers and tags. Zone Manager is the fastest and easiest path to integrating with RF Code.

Zone Manager provides a simple yet powerful API interface that allows consuming applications to access real-time tag status, tag location and tag sensor data as well reader status information. The data from Zone Manager is about tag information - not asset information. The consuming application integrated with Zone Manager is responsible for associating tags to assets and tracking additional asset information. The same concept applies to sensor information coming from Zone Manager as the consuming application is responsible for trending, alerting, etc. The core engine of Zone Manager provides some very important services that are highly beneficial to integrators.

- Zone Manager works in concert with the RF Code reader's "exception mode" so that only significant tag event information is sent from the reader to Zone Manager such as:
 - Tag online (new tag found) event
 - Tag offline (tag disappeared & timed out) event
 - Tag payload changes such as a change indicating tamper or

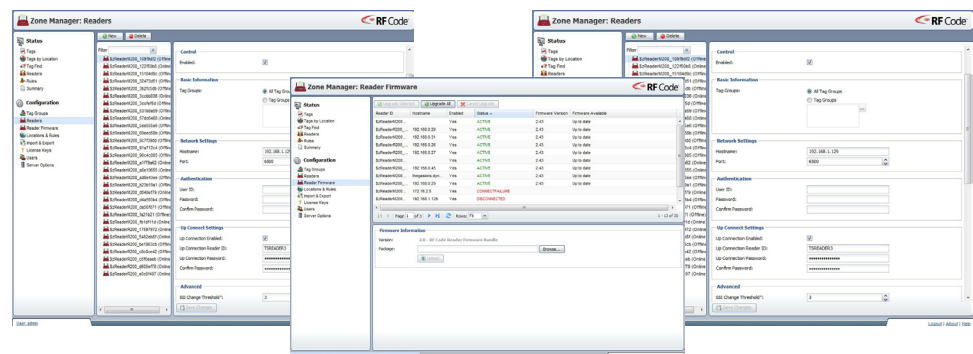
motion as well as data sensor values changing such as temperature from 74.5 to 74.7

If a tag's online status, signal strength indicator or payload values are not changing, then the individual beacons from the tag to reader are not communicated to Zone Manager. This allows for a massive amount of data reduction.

- Zone Manager handles that multiple readers may see the same tag simultaneously. Zone Manager only issues a single tag event to the consuming applications therefore reducing even more network traffic.
- Zone Manager utilizes rules configured for defined location to determine the location of the tag. Zone Manager keeps track of which tags are currently in which location and updates this information in real-time as tags move from one place to another.
- Zone Manager manages all TCP/IP communications to the readers for both standard connections and UpConnect connections. The core engine of Zone Manager will retry broken connections immediately and notify consuming applications of reader status changes.

GUI Based Configuration and Administration

Zone Manager includes a very simple to use web 2.0 administration graphical user interface. The administration GUI



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provides for the following functionality:

- Configuration and management of tag groups
- Configuration and management of location hierarchy
- Configuration and management of reader location rules
- License key administration
- Access control administration
- Configuration of UpConnect parameters
- Configuration of store-and-forward parameters

In addition to its configuration capabilities, the Zone Manager web GUI provides a diagnostic status view to allow administrators to view the tag locations, tag payloads, reader status as well as location and rule data to ensure the system is configured and performing as needed.

Highly Scalable

Zone Manager is extremely scalable especially since it only dealing in current or real-time information. A single instance of Zone Manager on a dual core system with 1GB of RAM can easily handle thousands of readers and hundreds of thousands of tags.

Advanced Networking Features

Zone Manager fully supports the UpConnect feature. RF Code readers may initiate the connection to Zone Manager as well as the mode where Zone Manager initiates the connection to the consuming application. Zone Manager also supports a feature called store-and-forward. Using store-and-forward, Zone Manager will

store all events on the local hard drive of the host system if the network connection to the consuming application is interrupted. When the connection is restored, Zone Manager will send the forward the stored information to the consuming application.

Open API

RF Code publishes an open interface specification (API) for Zone Manager. The API allows for the full management of Zone Manager such as creating locations, rules and readers as well as consuming all tag and reader event information. The API provides a telnet style command interface as well as a web URL style interface making it easy for a variety of applications to integrate. All tag and reader event information is available in CSV, XML and JSON formats. The Zone Manager API can be found at the following URL: <http://www.rfcode.com/Resources/Support/Middleware-Location-Engine-Integration.html>

Standard Integration

Zone Manager includes a number of standard integration capabilities with industry leading solutions free of charge. The standard integrations provided by RF Code with the Zone Manager solution are:

- IBM Websphere Premises Server
- IBM Tivoli Maximo
- APC NetBotz
- Microsoft Biztalk RFID

RF Code Zone Manager Specifications

OPERATING SYSTEM SUPPORT	
Windows compatibility	• Windows 7 • Windows Vista • Windows XP • Windows 2003 Server • Windows 2008 Server
Linux compatibility	• RPM file for RedHat based distributions • TAR.GZ file for all others • Tested on Fedora and widely used on Ubuntu, SUSE, and Gentoo
WEB BROWSER SUPPORT	
• Firefox 3.x and higher • Internet Explorer 7 and 8	
HARDWARE REQUIREMENTS	
• Dual Core Intel or AMD processor • 512MB of RAM available for Zone Manager • 300MB disk space	