PAM –
Process Automation Module

Correlates and converts complex data into relevant business information

Advantages

- HL7 compliant
- Complex event processor
- Logic processor
- Workflow processor
- Advanced process automation
- Increased data relevancy
- Improved business intelligence
- Data Filter

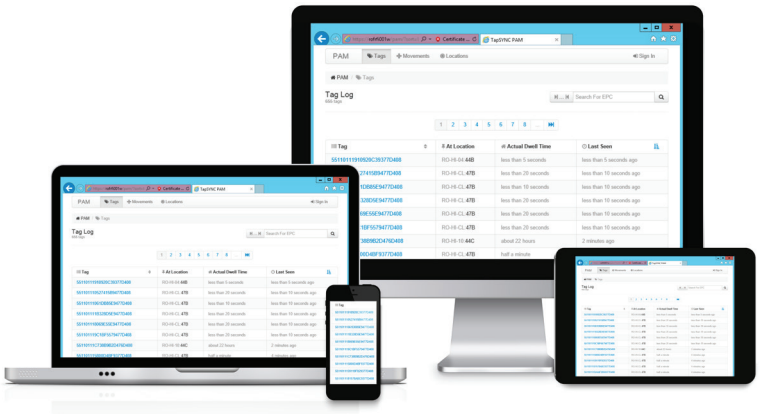
Options

- Highly-configurable based on your defined business logic

Quake Global's PAM is a software solution designed as an interface between your data application layer software and Quake Global's EasyTAP™ product or other RFID data sources to enable easy integration of RFID related data into your applications.

PAM serves two primary purposes:

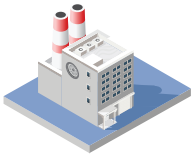
EasyTAP is the industry's first intelligent RFID networking solution to combine real-time, adaptive control of RFID readers, location-aware tag data processing, and standards-based data services for applications that use RFID data. EasyTAP provides a single API that can be integrated with an enterprise-wide visibility platform, creating complete track and trace visibility in:



- Healthcare – use active tags for healthcare providers; use inexpensive passive RFID wristbands for patients in high turnover environments such as the ED (Emergency Department) and OR, rugged passive RFID asset tags for valuable, mobile assets (beds, respirators, IV pumps, and crash carts), and use passive RFID labels for specimens, apparel and consumables.
- Manufacturing – use active tags for tracking high-value equipment (in-plant vehicles); use passive tags for hand tools, materials, stock, and consumable MRO items.
- Logistics – link an active RFID tag on a shipping container to the passive RFID tags of items inside. When the container contents change, inventory and tracking updates are recorded instantaneously.

Markets Served

Healthcare



Industrial

Manufacturing

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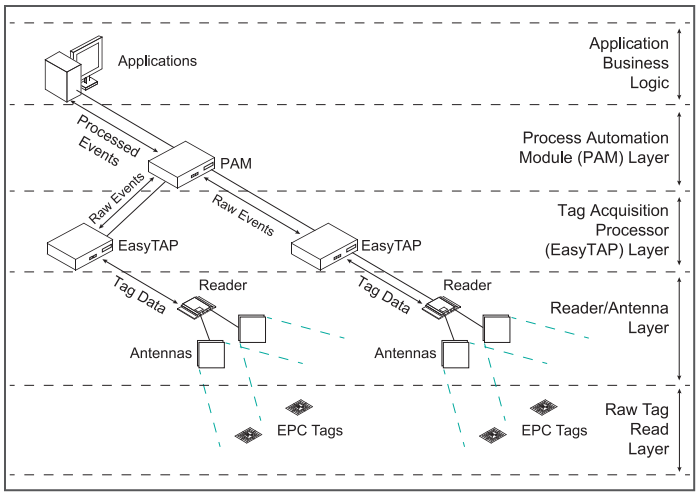
Quake Global PAM (Process Automation Module) Description



What is PAM?

Quake Global's PAM (Process Automation Module) is a middleware processing layer that works in conjunction with EasyTAP or multiple EasyTAPs. PAM performs several key functions, including:

- PAM receives information (typically ALE reports) from multiple EasyTAPs or other sources
- PAM applies filtering based on RFID tag prefixes to allow only tags with a certain prefix to be considered or ignored
- PAM provides filtering by location to only apply specific rules in specific locations
- PAM applies tag movement filtering based on parameters such as dwell time (how long a tag is in a specific location), number of times in a specific location (send an alert if a tag moves into an area more than once), etc
- PAM captures tag movement history without storing any asset information, avoiding the need to meet various compliance requirements
- PAM delivers tag movement reports to an unlimited number of "subscribers" of different types
- PAM delivers location specific tag movement reports that make specific reports for specific locations possible
- PAM filters unnecessary noise and only delivers information upstream to subscribers if certain "changes" were detected - location, dwell, etc
- PAM can accept reports from other PAM devices, providing theoretically unlimited scalability

What is a "Subscriber"?

A "subscriber" refers to an external database record identifying how and where to deliver RFID tag movement reports. For example, PAM can have a subscriber defined with type HTTP POST and URL as https://host.local/ with format as JSON and another subscriber of type MQBUS with (setting as…) and format set as ALE. PAM is a very flexible platform.

What is an ALE Report?

An ALE report is a format of EasyTAP RFID tag related messages, essentially an XML file with specific fields. Each ALE report configuration in EasyTAP defines how often data is collected and sent.

Why do I need PAM?

Without PAM, the customer's application that would receive the tag information or reports would have to deal with multiple ALE reports for each location coming from multiple EasyTAPs with intervals as fast as 1 second each. Each ALE report from EasyTAP usually carries information for many tags. In other words, lots of data. The customer's application would then have to process each ALE report before replying "OK" to EasyTAP or the system risks losing data. EasyTAP would have to wait for its last sent report to be confirmed by the application before sending the next report. If the application is not fast enough, reports will start queuing up. PAM is specifically designed to handle these types of reports in a very efficient manner. PAM addresses repeated deliveries, and cleans up and reduces the amount of data flowing upstream. PAM helps convert data into business relevant information.

Examples of PAM in action

PAM can take in repeated current inventory reports but will only create new records and consequently push out an RFID tag "move" event if a tag location has changed. It has protection against connection crashing during a connection without holding the database on exclusive transaction.

For example: PAM receives an ALE report with 100 tags and while processing tag #50 the connection is interrupted. PAM would then pick up right where it stopped as soon as EasyTAP tries to re-deliver the ALE report. This will not produce any duplicate data. Multiple instances of PAM can be put together to create a cluster to handle higher loads from multiple EasyTAP feeds.

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