

Introduction

TDOA positioning system is a UWB positioning anchor, UWB positioning tag and Center Location Engine (CLE), positioning visualization software (RTLS-DISPLAY). The composed products can realize a centimeter-level high-precision real-time positioning system according to the positioning method of the time difference of arrival. This system is characterized by:

1) The anchor tag is equipped with R&D and self-developed UWB modules. After years of project tests in complex industrial control environments such as mines and nuclear power plants, the modules are safe and reliable.

2) The system adopts the POE power supply mode to reduce the workload of on-site cable deployment.

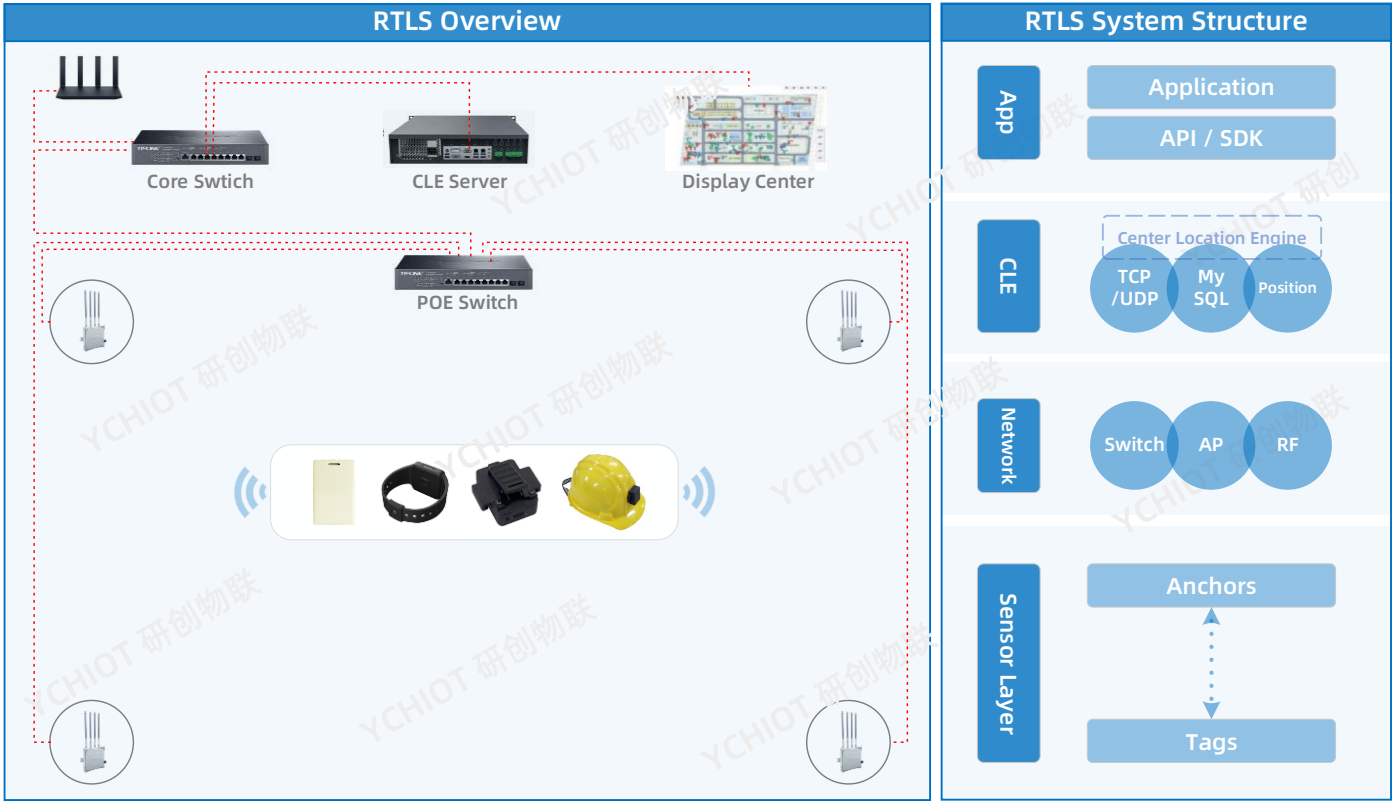
3)Customers can read the position coordinate information from the central positioning engine software (CLE) for secondary development

Main Features

- Positioning algorithm: TDOA
- Synchronization method: Wireless
- Accuracy: X-Y: 30cm in 3D in Line of Sight
- Support frequency band: 3.5G-4.2G
- Density: 1200Hz(@6.8Mbps)
- Typical distance between anchor and tag
 - 50m @6.8Mbps
 - 100m @110Kbps
- Maximum number of tags: unlimited
- Executive standard
 - Compliant with IEEE 802.15.4 UWB standard
 - Comply with FIRA Alliance standards (YCHIOT is a member of FIRA Alliance)
 - Comply with the national standard "Information Technology Real-time Positioning" (YCHIOT is the drafting unit of the national standard for this technology)

Application

- Smart Agriculture
- Asset tracking
- Automotive
- Building control
- Factory 4.0
- medical insurance
- Logistics Warehouse
- mining
- Retail
- Safety
- Access control
- Crowd management
- Sports analysis



Hardware selection

Ceiling anchor



Wall-mounted anchor



Outdoor waterproof anchor



Safety hat



Badge tag



Material tag



Positioning bracelet



Clip-on inspection tag



Central Location Engine (CLE)

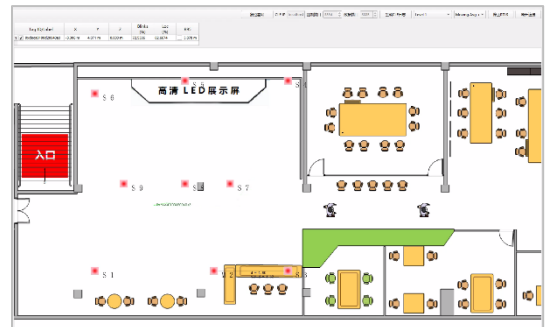
- Coordinate UWB wireless clock synchronization.
- Discover anchors in the network.
- Collect tag sensor information and calculate position.
- Provide positioning data SDK interface.
- Support for Windows / Linux (Ubuntu)

```

Wireless Sync
Solver2D
FPIRF : Enabled
Zero algorithm : Enabled
solveTime : 250 ms
Logging: vector file (blinks and CCP from all masters), Debug messages and Diagnostics (L4)
No dns_cle.cfg : use MDNS discovery
Starting RTLSDataServer on port 3335 ...
MDNS query for _dw_rtls_anchor
*** WARNING *** The program 'lle' uses the Apple Bonjour compatibility layer of Avahi.
Starting RTLSClientServer on port 3334 ...
*** WARNING *** Please fix your application to use the native API of Avahi!
*** WARNING *** For more information see <http://0pointer.de/blog/projects/avahi-compat.html>
Anchor (1) discovered : B7E9F014B7EFC028 at 3000:10.18.18.9
  
```

Positioning Visualization Software-Qt (RTLS-DISPLAY)

- Support remote upgrade and parameter setting of anchors.
- Support real-time display of tag positioning trajectory.
- Support map import and map parameter settings.
- Provide the software source code (NOT FREE).
- Customers can customize their own functions.



Positioning Visualization Software-Web (RTLS-WEB)

- Support remote upgrade and parameter setting of anchors.
- Support real-time display of tag positioning trajectory.
- Support map import and map parameter settings.
- Support electronic fence settings and alarms.
- Support trajectory history playback and report export.
- Support OEM.

