



Empowering Caregivers

AeroScout Location Engine & LANCOM Systems Infrastructure

Configuration Guide

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Abbreviations and Terms

Terms	Description
AEM	AeroScout Engine Manager
AP	Access Point
CLI	Command line Interface
ICMP	Internet Control Message Protocol
IP	Internet Protocol
MAC	Media Access Control (Hardware Address)
PDA	Personal Digital Assistant
RFID	Radio Frequency Identification
RTLS	Real Time Location System
Tag	AeroScout Tag
UDP	User Datagram Protocol
VLAN	Virtual Local Area Network
VoWLAN	Voice Over Wireless Local Area Network
Wi-Fi	Wireless Fidelity or WLAN
WLAN	Wireless Local Area Network

Introduction

STANLEY Healthcare's Unified Asset Visibility solutions utilize the power of Wi-Fi networks to provide significant business benefits through Real-time Location, Active RFID, sensors, and telemetry. STANLEY Healthcare uses Wi-Fi and other wireless networking standards to accurately track the real-time location and status of valuable assets such as equipment or people. By leveraging popular wireless data communications standards, STANLEY Healthcare's solutions add minimal incremental cost to a communications network and enable a broad set of visibility applications. With STANLEY Healthcare's innovative MobileView software, customers turn visibility information into everyday decisions, to improve operational efficiency and drive a compelling ROI.

Solution Overview

LANCOM Systems is the leading European manufacturer of secure, reliable and future-proof networking (WAN, LAN, WLAN) and firewall solutions for the public and private sectors. The company combines hardware business with virtual network components and Cloud-based software-defined networking (SDN). The result is a unique portfolio of on-premises and Cloud solutions with a central platform for SD-WAN, SD-LAN, SD-WLAN & SD-Security.

STANLEY Healthcare Tags

STANLEY Healthcare Tags feature excellent battery life (up to 2-3 years) and a small form factor. They can be mounted on assets or worn as a badge clip or wristband. In addition to a standard Wi-Fi interface, they can be triggered at low frequency or Ultrasound signal by Exciters to send immediate alerts, their precise location, or a customized message. Tags also include several advanced features, such as motion detection, call-button functionality, temperature and humidity measurement and tamper-proof configuration. The unique interface between the tags and the LANCOM Systems infrastructure helps reduce network impact and conserve tag battery life. This ensures high scalability – tens of thousands of tags – without exhausting the wireless network.

AeroScout Location Engine

The AeroScout Location Engine determines location using signal strength measurements (RSSI) taken by the LANCOM's APs, which serve location sensor and network access roles simultaneously. Additional capabilities can be obtained by installing Exciters in areas of interest (e.g. doors, specific rooms) to trigger tags to transmit when in proximity.

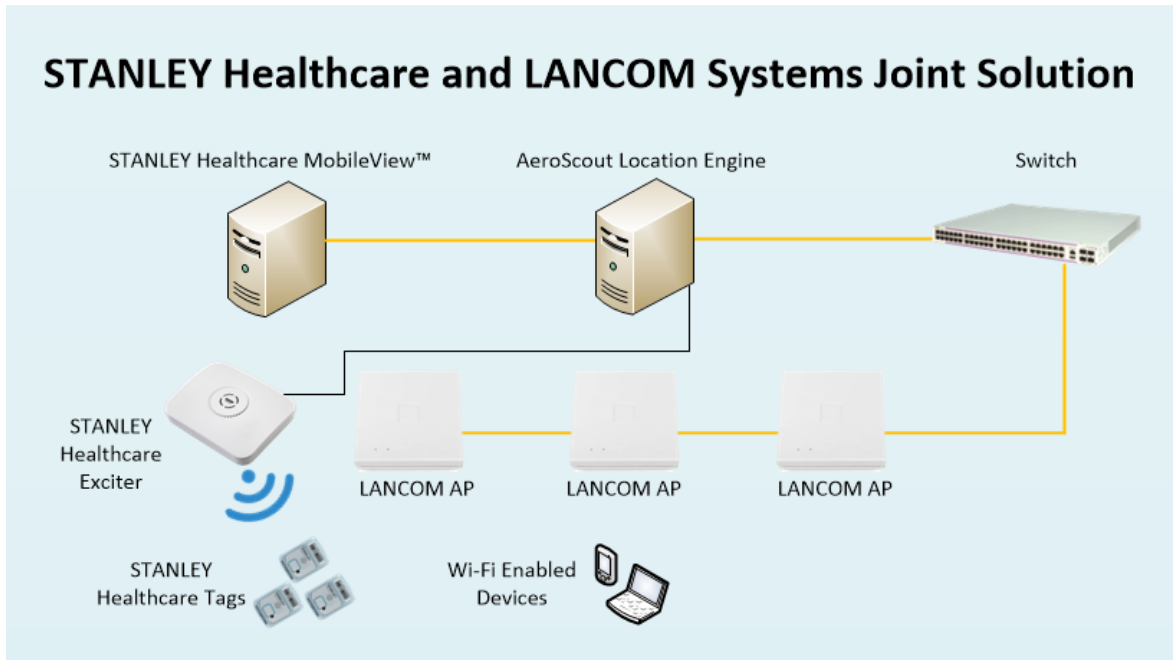
STANLEY Healthcare MobileView

MobileView supports STANLEY Healthcare's strategy of delivering focused, solution-centric applications. Each MobileView application has its own unique functionality, but also leverages the powerful core features offered by the MobileView platform. User experience is tailored to the specific application. The platform enables you to track asset locations and status throughout a site; manage assets and the tags that are used to locate them; set up powerful event monitors, which can automatically send alerts through a variety of channels when certain conditions are met.

MobileView offers a suite of instant reports that can be generated on-demand or automatically run. As assets move or perform tasks, MobileView is notified of their location as well as other important status information.

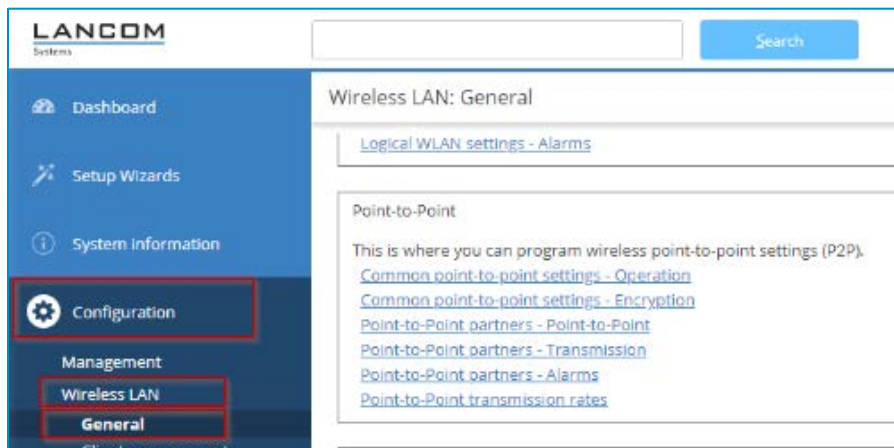
Solution Setup

Setup



Configuring a LANCOM AP to Connect to the Location Engine Server

1. Login to the LANCOM web interface of the AP.
2. From the side menu bar, click on **Configuration**.
3. Click on **Wireless > General**.



4. Locate the **Stanley (AeroScout)** section and perform the following:
 - a. Select the **Stanley (AeroScout) RTLS operating** checkbox.
 - b. Enter in the AeroScout **Server address**.
 - c. Enter in the required **Server port**.
 - d. Entering a **Source address** is only necessary when the AP has been configured to use several management IP addresses/networks in parallel.
 - e. Vendor ID can be left as LANCOM (Default).

The screenshot shows the LANCOM configuration interface. On the left is a navigation menu with 'Configuration' at the top, followed by 'Management', 'Wireless LAN', and 'General'. The 'Wireless LAN' section is expanded, showing sub-sections like 'Client management', 'Security', 'Stations/LEPS', 'Encryption', '802.1X', '802.11u', 'WLC', 'AutoWIDS', 'Trace', 'IoT', 'Interfaces', 'Date & Time', 'Logging/Monitoring', 'Communication', 'IPv4', 'IPv6', 'IP Router', 'Routing protocols', 'Multicast', 'Firewall/QoS', 'Certificates', 'NetBIOS', 'Public-Spot', 'RADIUS', and 'Miscellaneous Services'. The 'Extras' section is also visible at the bottom of the menu.

The main configuration area is divided into several sections. At the top, there are links for 'Common point-to-point settings - QoS/Queue', 'Common point-to-point settings - Encryption', 'Point-to-Point partners - Point-to-Point', 'Point-to-Point partners - Transmission', 'Point-to-Point partners - Alarms', and 'Point-to-Point transmission rates'. Below this is an 'Extended settings' section with a note: 'The following physical wireless and logical LAN settings generally do not need to be changed.' followed by links for 'Expert WLAN settings - Beaconing', 'Expert WLAN settings - Environment scan', 'Expert WLAN settings - Roaming', 'Expert WLAN settings - Backup transmission power reduction', 'Expert WLAN settings - RTLS', and 'WLAN transmission rates'.

The 'Stanley (AeroScout)' section is highlighted with a red box. It contains a checked checkbox for 'Stanley (AeroScout) RTLS operating'. Below this are four fields: 'Server address' (172.23.56.232, max. 64 characters), 'Server port' (12092, max. 5 characters), 'Source address (opt.)' (with a dropdown menu set to 'other...'), and 'Vendor ID' (LANCOM, with a dropdown menu).

The 'Ekahau' section is also visible, with fields for 'Server address (ERC)' (max. 64 characters), 'Port' (8569, max. 5 characters), and 'Source address (opt.)' (with a dropdown menu set to 'other...').

At the bottom of the configuration area, there is a note: 'Enable the Blink mode per WLAN interface in the Expert WLAN settings.' followed by a link for '802.11k Roaming Targets'. Below this are two buttons: 'Send' and 'Reset'.

5. Once all the settings have been configured, click **Send**.
6. The AP will now establish a connection with the specified Location Engine IP.

Configuring AeroScout Engine Manager

Do the following:

1. Open the AeroScout Engine Manager.
2. On the map, right-click the physical location of the AP and select **Add, Add Access Point**. The **Access Point Properties** dialog box opens.

The screenshot shows the 'Access Point Properties' dialog box with the following fields and values:

- General**
 - AP Name:
 - Vendor: Lancom
 - IP Address: . . .
 - Port: 1144
 - MAC Address:
 - Coordinates (meters): X 12.82 Y -4.11 Z 3.00
 - Map ID: 17_1_0
 - Map Name: FloorMap
- Access Point Mode**
 - RSSI Location Calculation:
- Cells**
 - Cell Selection:
- Comment**
 -

Buttons at the bottom:

3. Enter the following information.

Name

Give the AP a recognizable name.

Vendor

Select **Lancom** from the drop menu.

IP Address

Enter in the AP's IP address.

MAC

Enter in the AP's MAC address.

Coordinates

In **Z Coordinates**, enter the height at which the AP is mounted, in meters.

4. Click **OK**.

About STANLEY Healthcare

Over 15,000 hospitals and senior living communities rely on STANLEY Healthcare solutions to empower caregivers to deliver better care. STANLEY Healthcare is a part of Stanley Black & Decker and a proud supporter of the Alzheimer's Association®. Learn more at stanleyhealthcare.com.

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