Integration Document

Kloudspot & Huawei Wireless Solution

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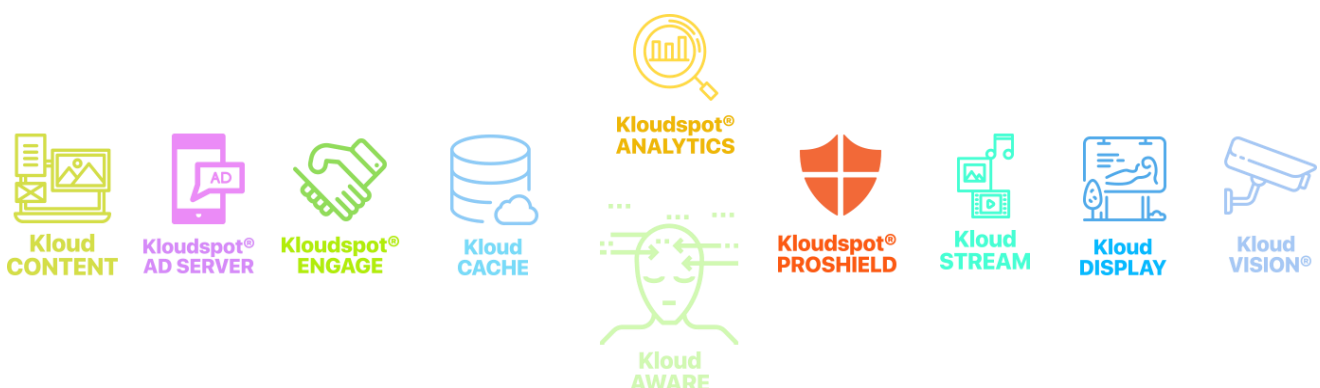
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1. Introduction

Kloudspot is a Situation Awareness platform that Harnesses the power of wireless data and artificial intelligence to enable digital transformation for businesses. Kloudspot platform is built by experts in the industry and with experience and background of location services including creation of Cisco CMX, BBX (Billboard Exchange) and other engage platforms. By Design, Kloudspot platform is architected with the following differentiating features and capabilities as the core artifacts, that are all correlated and can be enabled in conjunction with each other to enhance the situations with awareness of surroundings in a given location to help improve businesses and help raise customer satisfaction. Kloudspot enables Data in Motion use cases including intensive complex Event Processing and customizable actions.

Kloudspot has pioneered several innovative techniques and been a thought leader with numerous patents in Location as a Service including:

Location aware captive guest portal

- Enabling mobile applications to acquire a MAC address for obtaining location information
- Real time mechanism for location-based messaging using wireless networks
- Real-time return of local search content based on global search key
- Network-based real- time distributed data compliance broker

Kloudspot's platform can help mashup various Social Media profiles (including FB, Instagram, twitter etc.) to raise the level of engagement on-prem with KloudDisplay's content broadcasting capabilities. It can also overlay IT applications (including Salesforce, Kibana, Tableau and ServiceNow) and in-house application content via Open API on to KloudDisplay and drive with policies.

One of the Key capabilities that Kloudspot can offer is Exhibitor Analytics, which not only understands entire footfall but specifically exhibit/offer specific movements and clustering algorithms.

Kloudspot also supports various algorithms that can be used to creatively solve specific use cases depending on specific requirement and/or cross-cutting features including security, geo fencing, classification, and segregating devices etc. An example is identifying common movement of clustered users, or identifying patterns of 'Person of interest' for security reason

Kloudspot Solution

Kloudspot is a new age network technology platform fostering digital culture and innovation for the connected generation. Kloudspot enables clients to manage these changes by integrating broad, cohesive, end-to-end digital operations and marketing strategies that enable profitability and stay nimble enough to respond to rapidly changing market conditions. These strategies access the power of technology to drive innovation and harness it for business transformation.

Kloudspot's innovative solutions and products enable businesses to harness wireless technologies to engage customers in both indoor and outdoor scenarios enabling practical, cost-effective solutions for a wide range of applications such as behavioural marketing, hyper-local campaign management, situational experiences, public Wi-Fi hotspots, community networks, public display systems, secure and fast Wi-Fi experiences to Home users, and infotainment solutions. Kloudspot has provided solutions for various verticals including hospitality, retail, smart cities, public hotspots, community centres, events, venues,

healthcare, and agriculture

Kloudspot's innovative platform puts it in a differentiating position in comparison with other industry vendors. Some of the key capabilities that make Kloudspot unique are:

KloudInsights: This platform provides a highly scalable data service that gives visibility into real-time network and user- related insights including and not limited to footfall, dwell time, movement patterns and behaviour. This, in conjunction with KloudAware can enable Data in Motion use cases including intensive complex Event Processing and customizable actions.

KloudDisplay: This is a network based Smart Display that can be remotely controlled Realtime with various context aware content and can help generate revenues by rendering promotional advertisements and building branding for customers. It can react to situations around it and apply content policies to show the viewers the right content in real-time

KloudShield: This platform service component is cloud controlled. It helps filter content by various categories and provides very granular control on policies and their applicability.

KloudSensor: Platform aware sensors that transmits data real-time in a secure encrypted channel to the KloudAwareTM service for various situational awareness use cases and actions

KloudVision: Cloud controlled IP camera that reacts to situations around it by scanning and pattern-matching against various algorithms and machine learning techniques.

KloudAware: This ingests massive amounts of data to process real-time and react to the data and situation with various actions that can be used to engage customers and also build awareness of the end guests

Kloudspot Platform Highlights

CLOUD POWERED
Remotely Manageable
Centralized Administration
High Availability
High Scalability

MODULAR
Activate Required Modules
Easily Managed
Rearrange Service Layouts

ANALYTICS
Track System Usage
Track Effectiveness
Monitor User Trends and Behavior
Evaluate Content Efficiency

RESPONSIVE UI
Supports mobile devices
UI for fixed Indoor screens
Display & Signage Systems
Integrates all types of Multi
Media

REALTIME & FAST
Plug & Play Access points
Automatic Activation
Real-time Activation of
Campaigns
Remote Monitoring &
Troubleshooting

FAST ROI
New Revenue Streams
Strong Brand Awareness
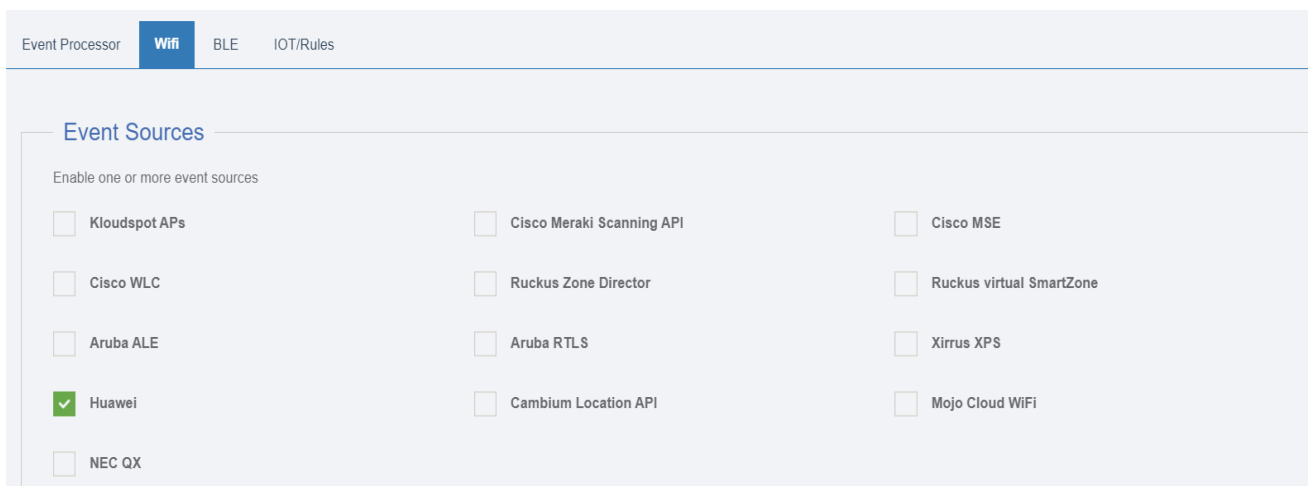Superior Experiences

Ref – Kloudspot Platform Highlights

2. Huawei AP Integration with KloudInsights

The Kloudspot Analytics Engine can receive events from many types of WiFi network.

One or more of event sources can be configured in the **'Configuration -> Event Processing -> Wi-Fi'** screen.

To configure a Huawei AP, select 'Huawei' from the event sources available.

Event Processor | Wifi | BLE | IOT/Rules

Event Sources

Enable one or more event sources

☐ Kloudspot APs	☐ Cisco Meraki Scanning API	☐ Cisco MSE
☐ Cisco WLC	☐ Ruckus Zone Director	☐ Ruckus virtual SmartZone
☐ Aruba ALE	☐ Aruba RTLS	☐ Xirrus XPS
☑ Huawei	☐ Cambium Location API	☐ Mojo Cloud WiFi
☐ NEC QX		

Enable location Services

To enable location services for Huawei APs please follow the steps below.
- ➤ Open 7777/ UDP port for collecting Wi-Fi data
- ➤ Open 7778/UDP port for collecting BLE data.

Date Received from Huawei Access Points

##%%HUAWEI WIFI INPUT : 485705582575C2A190020000001005600113CE23C0000000006481BF9D8680004600618F0280843E92DAA2D0000000006481E49E06800460D0618F
##%%HUAWEI WIFI INPUT : 485705843E92DAA2C006000000200B84E26F97F7D000000000101B8A0660004600D061920000FA9E08708AFB000000001018E9E06800460D0619201005600113CE23C0000000006A01D2A106000460D061920
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##%%HUAWEI WIFI INPUT : 485705843E92DAA2C005000000200644D1FA26628E000000002481D39C06800460D06192020008843E92DAA8D0000000002481EC9C06000460D0619201005600113CE23C0000000002481C09E06000460D061920
481C19C0680004600619202005582575C2A1A000000006481CA9D06800460D06192
##%%HUAWEI WIFI INPUT : 485705843E92DAA8C005000000200C056273AED15000000006601CEA106000460D0619D0200DCEF09946E0F000000006601DBA000004600619D0100560D113CE23C0000000006601D99E06800460D0619D
661BF9E06800460D0619D0800FA9E08708AFB00000006661BA9F06800460D0619D
##%%HUAWEI WIFI INPUT : 485705843E92DAA8C003000001005600113CE23C0000000008C81D29C06800460D06190020044D1FA26628E000000002481D19C06800460D06190200843E92DAA2D0000000002481DA9C06800460D0619D

Accuracy

The accuracy provided for Huawei AP is approximately between 3-5 meters for WiFi and 1-3 meters for BLE.
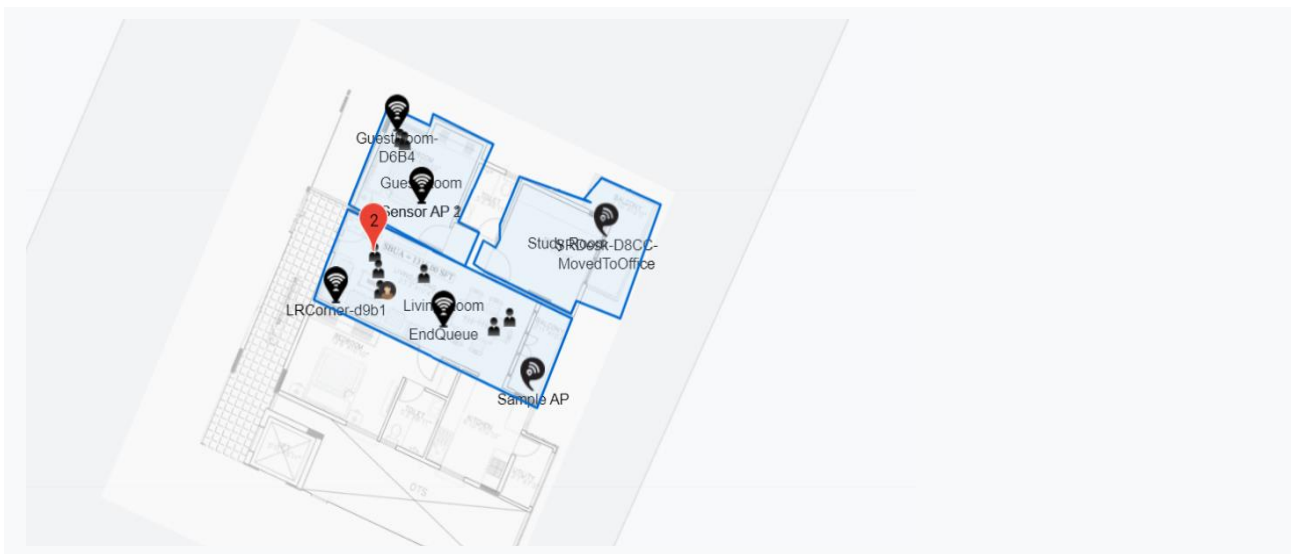
Widgets

Kloudspot Analytics offers a wide variety of widgets that user can pick and choose from to create a dashboard

Adding widgets which use Meraki payloads to the dashboard.
Step 1: On the homepage, navigate to 'My Dashboards' and select an existing dashboard or create a new dashboard.
Step 2: On the selected dashboard scroll down to the bottom and click on the '+' symbol to add widgets to the dashboard.

Ref – "User distribution floor map with statistics"

User Details

All ▾	Last 2 hours ▾

7

Total Visitors

	New	Returning
Probing	0	7
Associated	0	0

* Displaying data for Last 2 hours
[12:44 PM to 02:44 PM Asia/Calcutta]

Users at location Filter   Probing Users ▾

Device	Days Seen	Last Seen
08:25:25:DB:22:AE	59 days	07/25/2021 2:10 pm
2C:FD:AB:0F:73:84	92 days	07/25/2021 1:51 pm
90:78:B2:D2:0A:B9	223 days	07/25/2021 1:38 pm
9C:6B:72:07:1F:5F	59 days	07/25/2021 2:22 pm
BC:3B:AF:A6:31:B5	155 days	07/25/2021 1:18 pm
E8:5A:8B:55:89:C3	227 days	07/25/2021 2:22 pm
Gururaj M51 RandomMac	170 days	07/25/2021 2:31 pm

Previous   1   Next

08:25:25:DB:22:AE

Days Seen: **59** | Last Seen: **Jul 25, 2021**

Previous 7 session summary:

Living Room	Jul 25th 2021, 2:10:06 pm	Probing for **7 mins**
Guest Room	Jul 25th 2021, 2:06:07 pm	Probing for **4 mins**
Living Room	Jul 25th 2021, 2:05:13 pm	Probing for **a min**
Guest Room	Jul 25th 2021, 2:01:07 pm	Probing for **4 mins**
Living Room	Jul 25th 2021, 1:18:18 pm	Probing for **10 mins**
Guest Room	Jul 25th 2021, 12:35:01 pm	Probing for **3 mins**
Living Room	Jul 25th 2021, 12:13:20 pm	Probing for

22 mins

Ref – "User details for WiFi "

Rf - Heat map

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