



Géolocalisation Wi-Fi, analyse des données et CMX Cloud

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PORTAIL PARTENAIRES

<http://cs.co/partner-france>

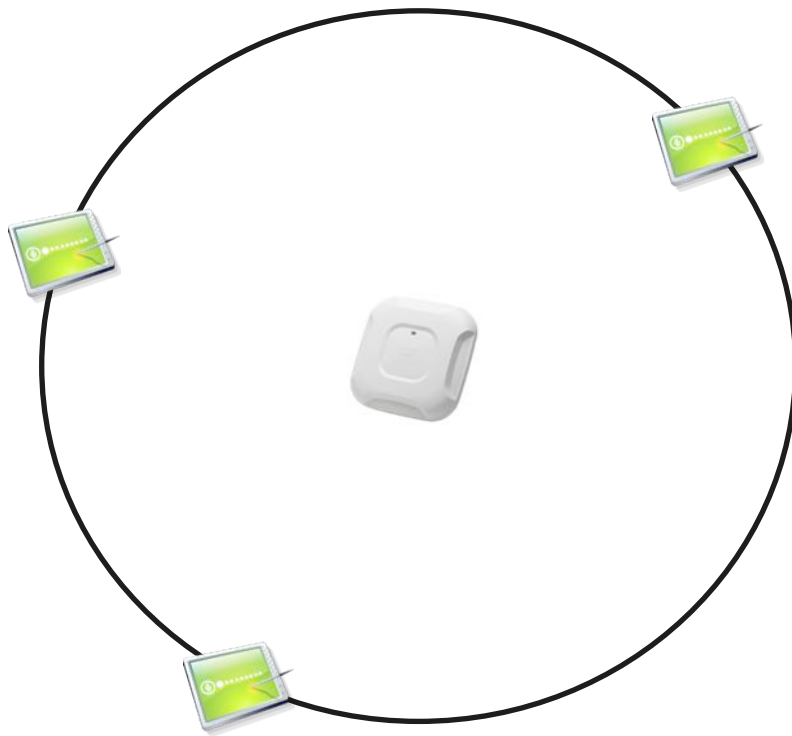
RESEAU BLOG

<http://gblogs.cisco.com/fr-reseaux>

Agenda

- Les techniques de géolocalisation Wi-Fi
- Cisco Connected Mobile Experiences (CMX)
- CMX Cloud

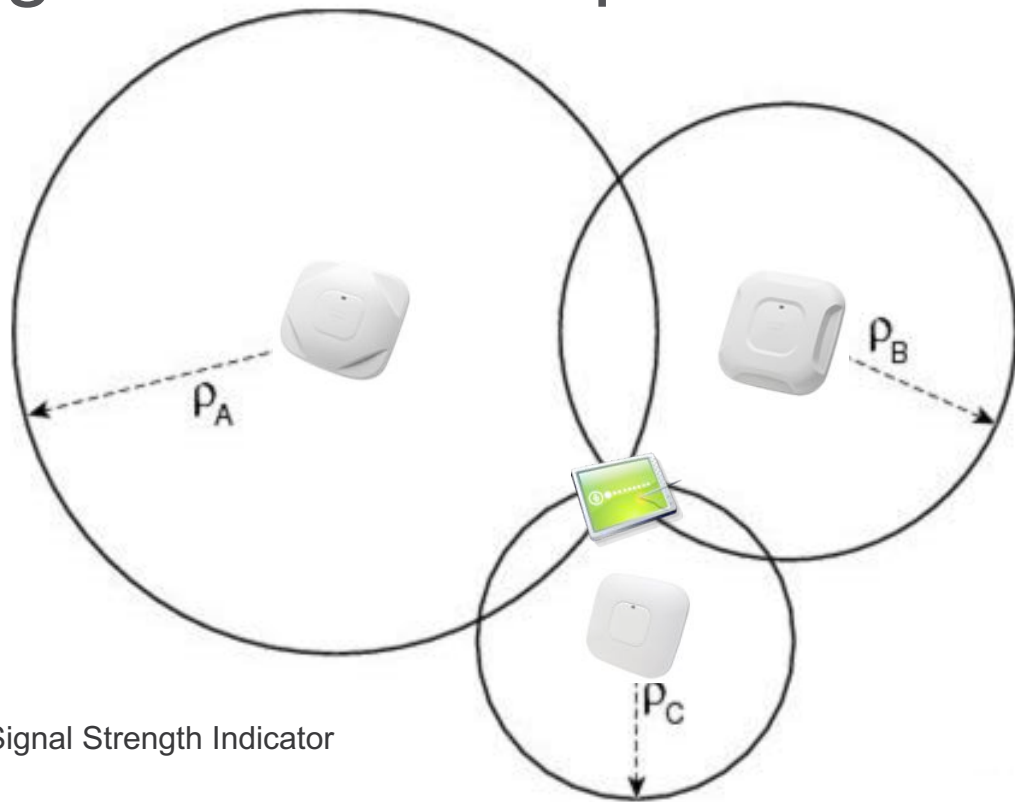
La Présence



Niveau de précision :

- présence / absence ;
- fréquence de visite ;
- visiteur / « passerby » ;
- connecté / non connecté.

La géolocalisation par Probe RSSI *



Niveau de précision :

- dans un radius de 10m
90% du temps ;
- dans un radius de 5m
50% du temps ;
- ~1-2 collectes / min.

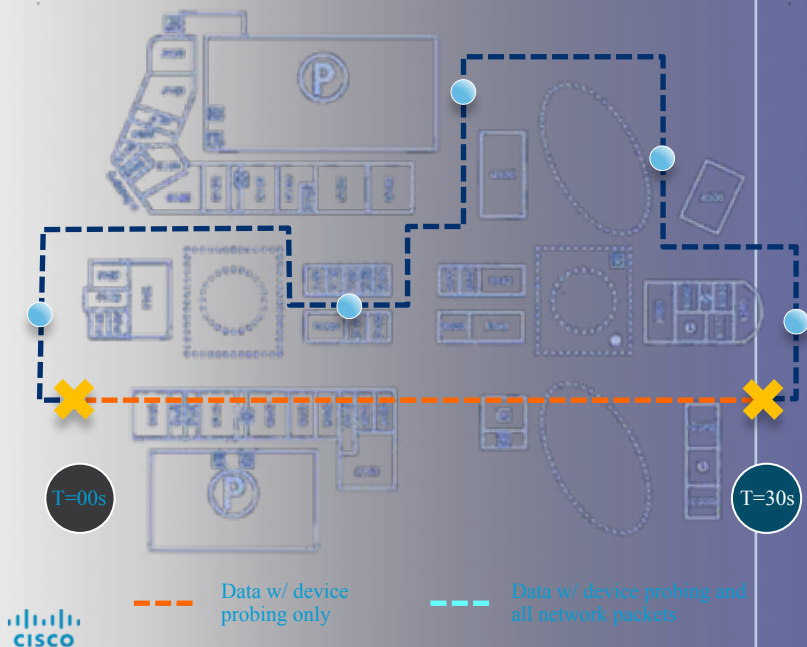
* Received Signal Strength Indicator

Exemple du comportement de l'iPhone 6 :

http://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/8-0/iPhone_roam/b_iPhone-roaming.html#concept_EB4E75D1E8F74279BFF6F080E9D4AE0C

Fast Locate (APs 3600/3700 avec WSM)

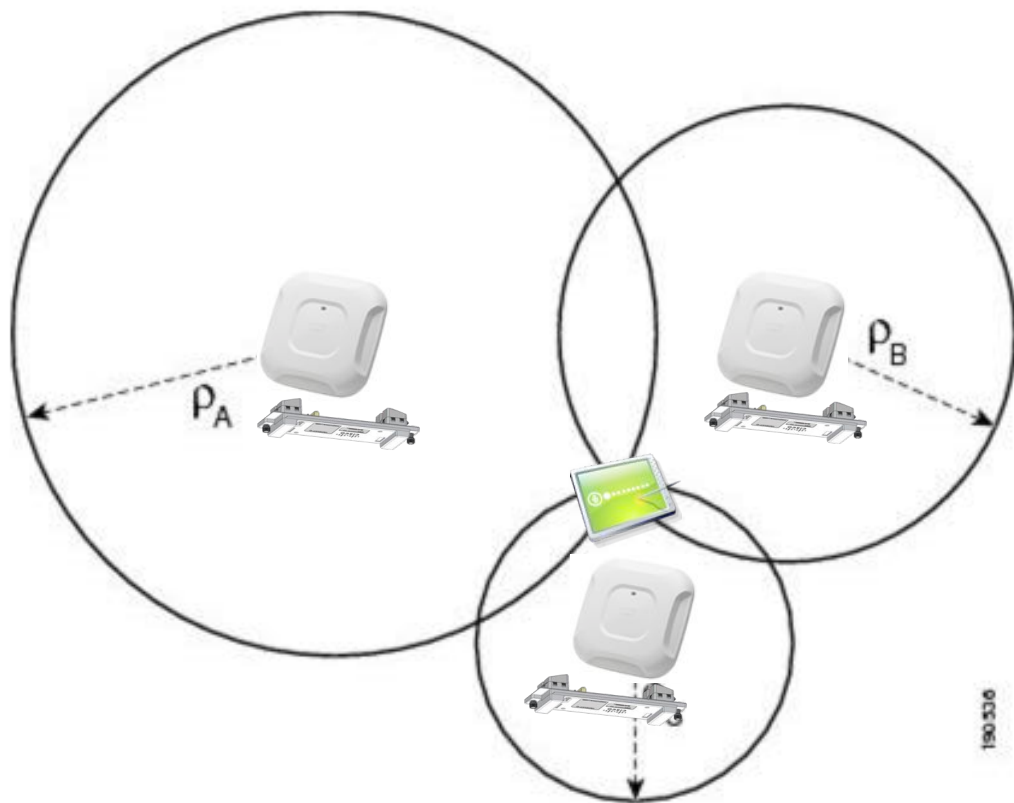
Problem: Probes are too infrequent and often not reliable



Solution: Use Network Data Packets that are Frequent

- Data Packets are sent when interacting with network (i.e., browsing, streaming, etc.)
- Use radio module on AP's to collect data packet RSSI.
- Location Refresh Rate: ~8 times per minute

Probe RSSI + Fast Locate (avec WSM)

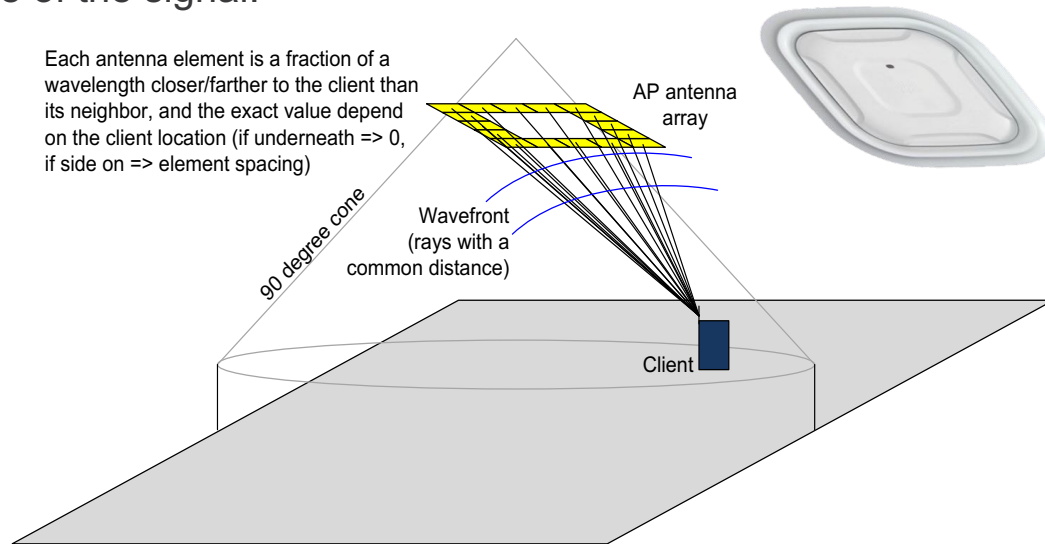


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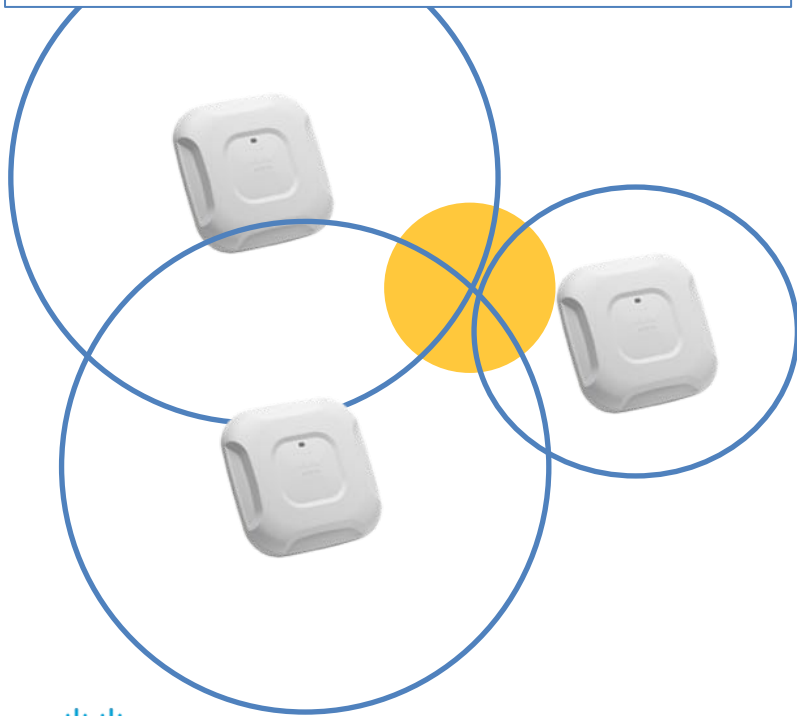
Hyperlocation with Angle of Arrival (AoA)

- Different antenna elements hear the signal a little earlier/later than others, measured by the phase of the signal.

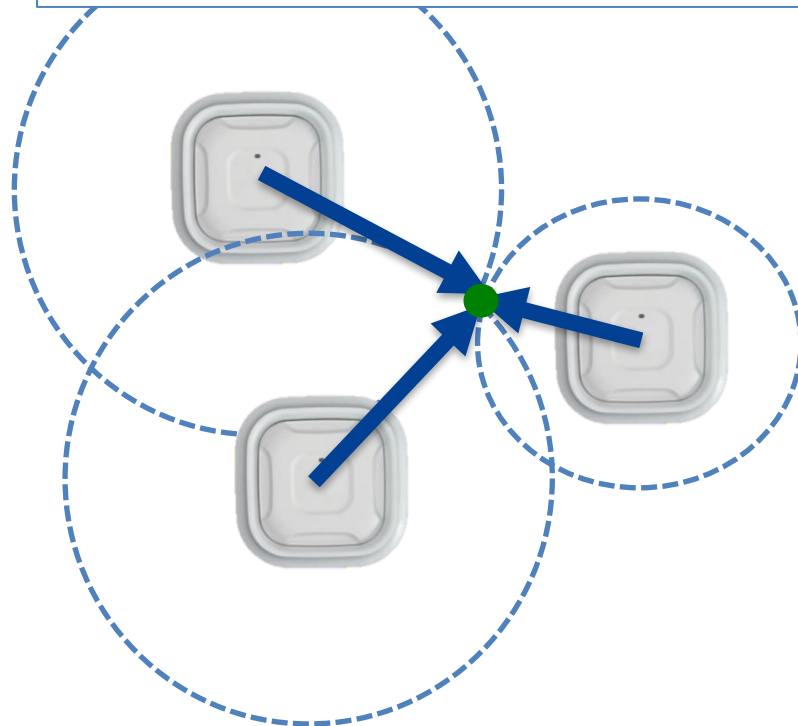


Location Accuracy Improvement

Probe RSSI: approx. distance via RSSI, but no concept of direction



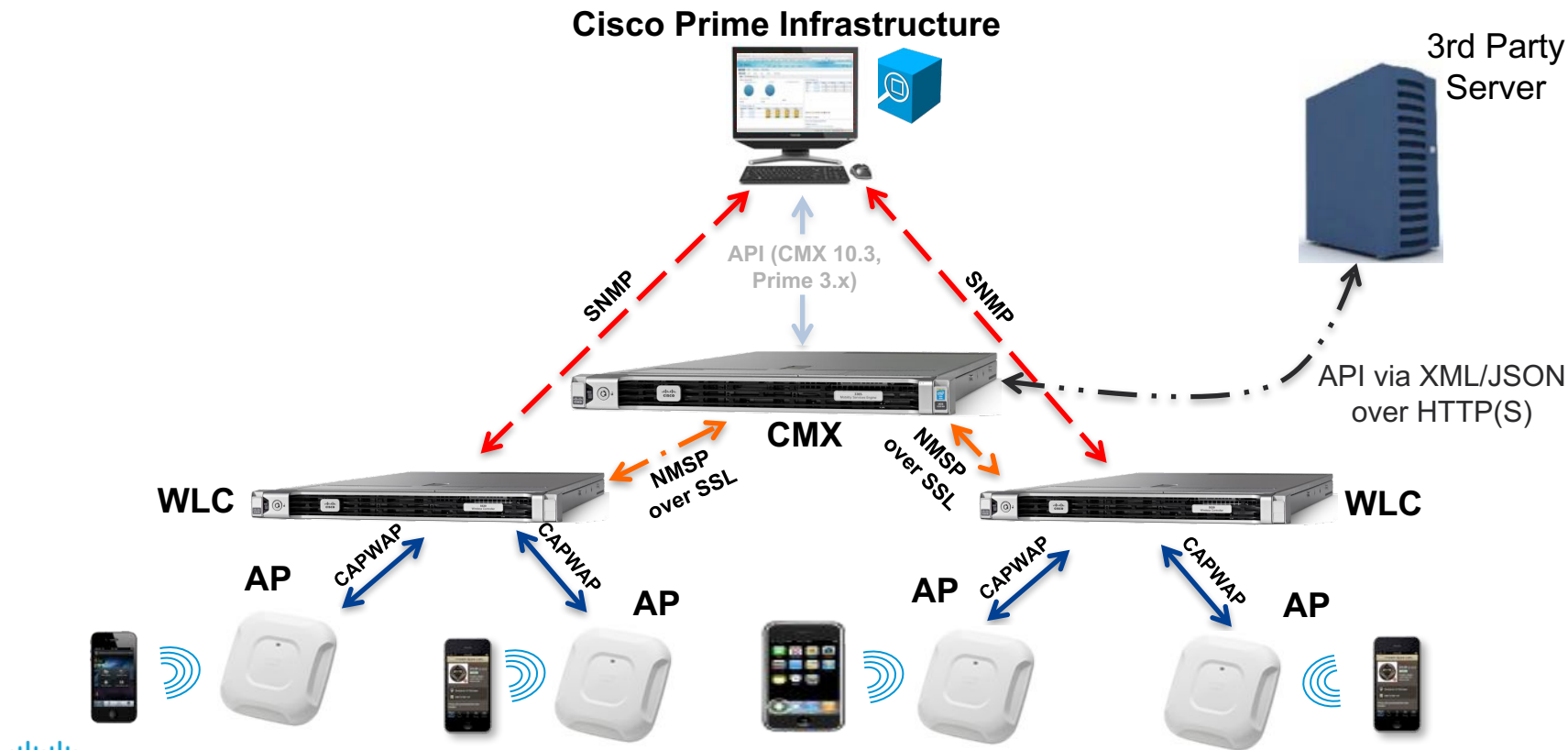
AoA: Determine direction to client in addition to distance → additional precision improvement



Résumé des techniques de géolocalisation

	Good	Better		Best
Metric	Presence	Probe RSSI	Fast Locate (modular APs)	Hyperlocation (Angle of Arrival)
Loc. Accuracy	In/Out/Passerby	5 - 10m (50 - 90%)	5 - 10m (50 - 90%)	2 - 3m (50 - 90%)
Loc. Refresh Rate	~1-2 per min	~1-2 per min	~8 per min (connected clients) ~1-2 per min (probing clients)	~8 per min (connected clients) ~1-2 per min (probing clients)
Client Type	Probing and connected clients	Probing and connected clients, BLE Beacons, RFID/WiFi Tags	Connected clients through Fast Locate, rest as of with Probe RSSI	Connected clients through AoA, rest as of with Probe RSSI
AP Density	Any AP deployment	Site Survey	Site Survey	Site Survey
AP Type	AP 700, AP 1K, 2K, 3K	AP 700, AP 1K, 2K, 3K (CleanAir APs for BLE beacons)	AP 3600/3700	AP 3600/3700
AP Module	Not required	Not required	WSM gen 1 (AIR-RM3000M=) or WSM gen 2 (AIR-RM3010L-E-K9=)	WSM gen 2 (AIR-RM3010L-E-K9=) + Circular Antenna (AIR-ANT-LOC-01=)
AP placement in maps required	No	Yes	Yes	Yes
Compatible with Mobility Express	Yes	No	No	No
WLC Release	WLC 7.6 and above	WLC 7.0 and above	WLC 7.6 and above	WLC 8.1MR3
Recommended CMX Release	CMX 10.2.1 or above	MSE 8.0 CMX 10.2.1 or above	MSE 8.0 CMX 10.2.1 or above	CMX 10.2.1 or above

L'architecture Wi-Fi avec Cisco MSE (CMX 10.x)



Quelques mots sur MSE et CMX

- Jusqu'à MSE 8.0, « MSE » est le nom du serveur et du logiciel aussi.
- CMX 10.x est le successeur de MSE 8.0 côté logiciel.
On aurait pu l'appeler MSE 10.x.
On aurait pu...
- A partir de CMX 10.x, « MSE » reste le nom du serveur et CMX devient le nom du logiciel.
CMX 10.x tourne sur le serveur MSE 3365.

Hyperlocation Solution Components

- AP 3600 / 3700
 - AIR-CAP3602I-E-K9
AIR-CAP3702I-E-K9
 - AIR-AP-BRACKET-2
- WSM gen 2
(a.k.a. Hyperlocation Module)
 - AIR-RM3010L-E-K9=
- Circular Antenna
 - AIR-ANT-LOC-01=

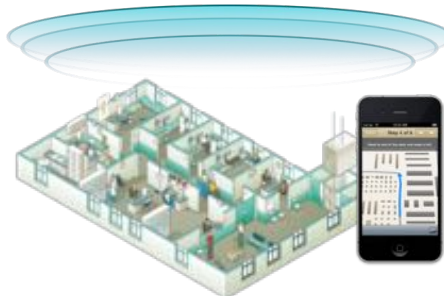


Connected Mobile Experiences

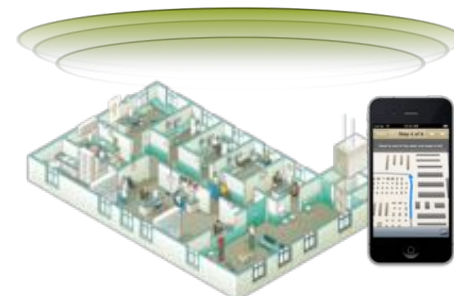
Cisco Connected Mobile Experience (CMX)



- Presence and location detection
- Analytics



- Easy Wi-Fi login, custom or social
- Zone-based, custom splash pages



- App-based mobile engagement
- Context-aware in-venue experiences

APIs

CMX Presence



Presence Analytics

- ✓ Analytics based on in/out, visitor/passersby, connected/probing
- ✓ Auto Report Generation
- ✓ Reports customization
- ✓ No maps required

CMX Location



Analytics and Location

- ✓ Analytics, Social Analytics and Map location
- ✓ Heatmaps
- ✓ Clients, RFID tags, Rogue APs, Interferences, BLE beacons location
- ✓ Verticalization & Zone Tagging
- ✓ Auto Report Generation
- ✓ Zones comparison

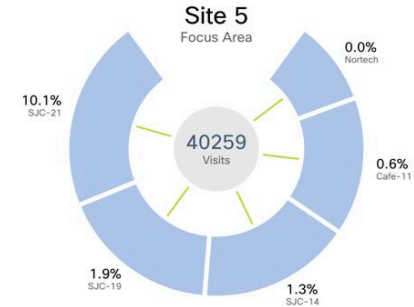
CMX Location



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Correlation August 15, 2015



Path Sep 15, 2015



CMX Connect: Guest Access made easy

✓ **Location specific custom guest access**
Portal and post-auth URL on per site basis

✚ **Multiple access methods**
Web passthrough, social media or SMS

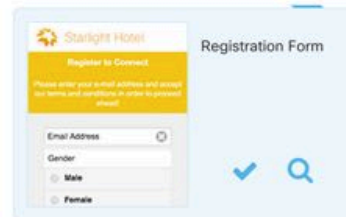
⚙ **Customized access and promotion**
Proximity-based landing pages and video

👤 **Understand who is in your location**
Enhanced analytics

🌐 **Multi-language support**
User-friendly

Templates (7)

Select template to create your own Portal



Registration Form

Starlight Hotel

Register to Connect

Please enter your e-mail address and accept our terms and conditions in order to proceed.

Email Address

Gender

Male

Female



Social Login

STARLIGHT

Social Wi-Fi Connect

f i



Social Wi-Fi Connect

f i

or Register to Connect

Name*

Email Address

TEMPLATE



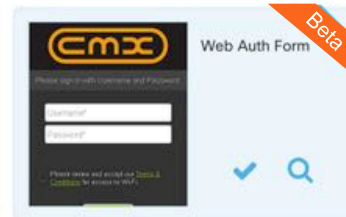
SMS Form

Please enter your number to get Wi-Fi

Phone Number*

Please review and accept our Terms & Conditions for access to Wi-Fi

10.2



Web Auth Form


CMX

Please login with Username and Password

Username*

Password*

Beta



Passpoint Auth Form

Complete Registration for access to Wi-Fi

Passpoint

Wi-Fi Option

Free Open Wi-Fi

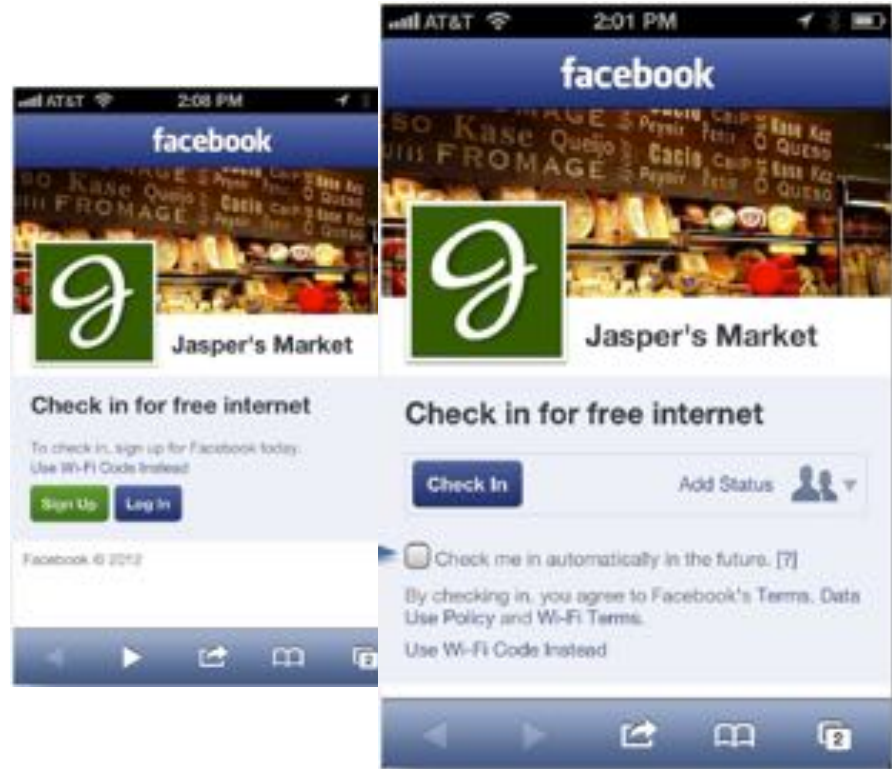
Passpoint Secure Wi-Fi

Passpoint Wi-Fi lets you connect

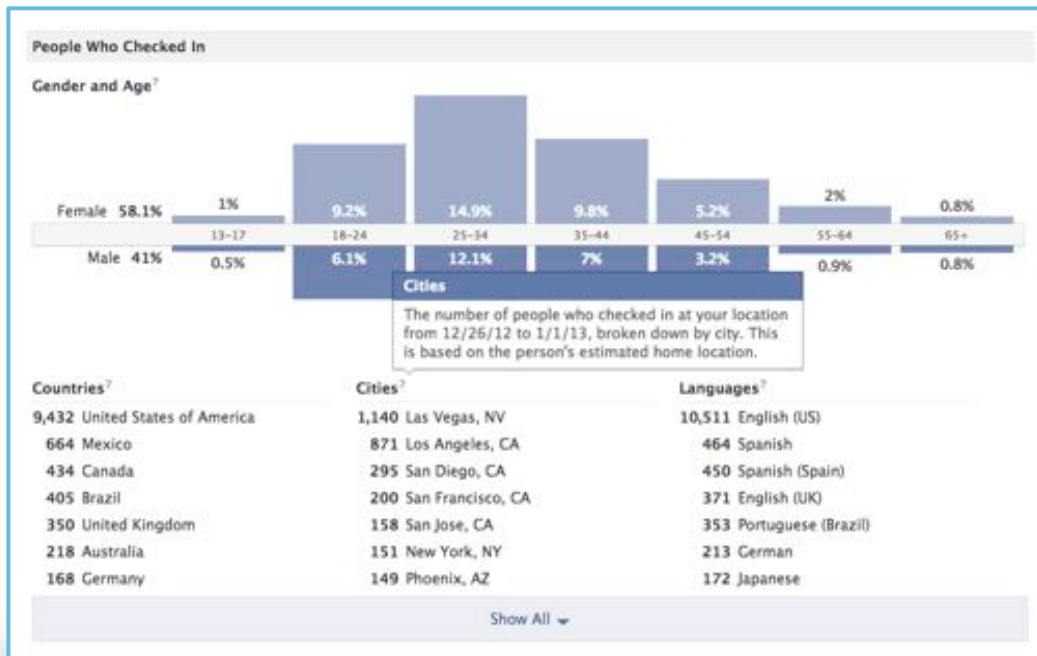
Beta

Guest Access – CMX for Facebook Wi-Fi

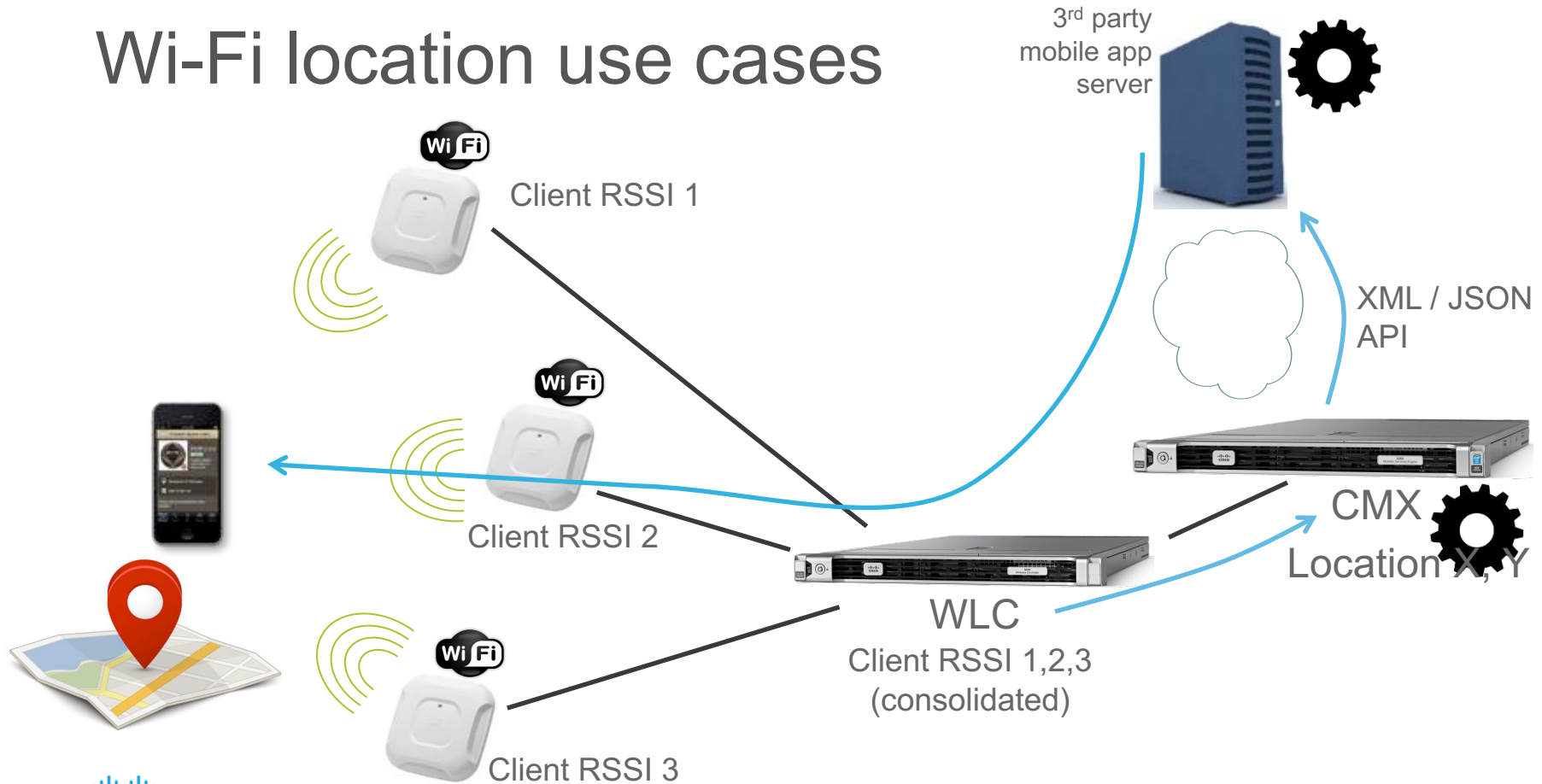
- Increase brand recognition and gain insights through Facebook Wi-Fi.
- User connects to Wi-Fi, opens browser, and checks in.
- Venue gains exposure through news feeds, notifying friends.



Guest Visibility



Wi-Fi location use cases



Wi-Fi only location

- Pros
 - Supported on all endpoints with Wi-Fi enabled
 - Supported by the Wi-Fi infrastructure already deployed for uplink data
 - Location calculations done at CMX level, no need for extra functions
 - Even without a mobile app we can collect analytics data
 - AP's density smaller than BLE's density
- Cons
 - Less precise than BLE

Ordering CMX

Licenses

	Regular SKUs	Cisco ONE for Wireless
CMX Base Lic (Location and Connect)	L-MSE-PAK-N ➔ L-LS-1AP-N	Included in C1 Foundation
CMX Advanced (Analytics)	L-MSE-PAK-N ➔ L-AD-LS-1AP-N	Included in C1 Advanced
SW Support	SWSS attached to licenses	SWSS attached to C1

Appliance

Appliance Options	AIR-MSE-3365-K9 or OVA (free download)
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CMX Cloud

Ordering CMX Cloud

Licenses

Regular SKUs

CMX Cloud Connect	AIR-CMX-CLOUD ➔ AIR-CMX-SVC-CX
CMX Cloud Connect with Presence Analytics	AIR-CMX-CLOUD ➔ AIR-CMX-SVC-CPAX

No Appliance 😊

CMX Cloud 1Y license (Connect and Presence Analytics) offered with Mobility Express

OPTION SELECTION AIR-AP1832S-E-K9C Global Price List US Availability (USD)

Configuration Summary [View Full Summary](#)

Category (i)	Qty	Unit List Price (USD)
Software		
SW1830-MECFWP-K9	1	0.00
AP Mounting Bracket		
AIR-AP-BRACKET-1	1	0.00
Ceiling Grid Clips		
AIR-AP-T-RAIL-R	1	0.00
CMX Cloud Promotion		
AIR-CMX-CLD-CPA-1Y	1	0.00
Subtotal		695.00
Estimated Lead Time		71 days

[Reset Configuration](#) [Cancel](#) [Done](#)

Option Search (i) [Multiple Options Search](#)

AIR-AP1832S-E-K9C > CMX Cloud Promotion [Key](#)

CMX Cloud Promotion

SKU	Qty	Lead Time (i)	Unit List Price (USD)
AIR-CMX-CLD-CPA-1Y	1	71 days	0.00
CMX Cloud - Connect with Presence Analytics 1Yr license CMX Cloud - Connect with Presence Analytics 1Yr license Inde			

[Clear Selection](#) | [Show Incompatible SKUs](#)

Promo details:

<https://support.cmxcisico.com/hc/en-us/articles/228904027-Cisco-Mobility-Express-CMX-Cloud-Promotion-License-Activation-Guidelines>

Blog article:

<http://gblogs.cisco.com/fr-reseaux/2016/12/15/bonne-annee-2017-avec-le-wi-fi-cisco-mobility-express-vous-offre-cmx-cloud-pendant-1-an>



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