

Business Continuity Requires Smarter Networks that Go Beyond Connectivity in Today's New Norm

Mist Systems AI-Driven Solution Supporting Contact Tracing

Whether threats are natural or manmade, many enterprises have business continuity plans designed to help them return to the status quo. These disaster recovery technologies and policies, however, focus almost exclusively on protecting company equipment and data.

Unfortunately, the recent COVID-19 crisis exposed a number of unforeseen and unexpected risks to other key enterprise assets: people and processes. While governments have been collaborating across borders and industries, technology giants, like Google and Apple¹, are also working together to leverage technologies to support the next recommended practice of contact tracing² towards this new norm. Meanwhile, many enterprises are trying to figure out how to get their workforce back into the office with phased returns or alternative scheduling. Fortunately, enterprises have within their right to know who enters a workplace and set guidelines for team gatherings onsite without as many privacy concerns. This is where Mist can help. To help protect the health and safety of people who enter a workplace, enterprises can use Mist to set guidelines for team gatherings and allocate work spaces. This solution brief outlines how enterprises can support contact tracing with Mist's AI-Driven Enterprise solutions.

ENTERPRISE RE-OPENING CHALLENGES

The parameters and restrictions dictated by the COVID-19 pandemic have impacted the reopening for many enterprises. Today's IT departments are taking the lead in helping their businesses address key questions like:

- If someone has identified themselves as positive (or is exhibiting symptoms), with whom did they recently come in contact?
- What areas within the office or campus did they visit? How long were they there?
- Are the cleaners going to every location and doing deep cleaning of those areas?
- Can proactive actions be taken to prevent unnecessary personal contact?

MIST'S AI-DRIVEN SOLUTION SUPPORTING CONTACT TRACING

Mist, a Juniper Company, has a unique and powerful solution for managing personnel and guest health and wellness as part of a comprehensive business continuity plan. Leveraging self-driving Wi-Fi, and patented virtual Bluetooth® LE (vBLE) technology and complemented with a customizable analytics platform, the Mist solution enables seamless and cost-effective deployment of mission-critical use cases such as user journey information, proximity tracing, and hot zone alerting to minimize any further exposure.

FUNDAMENTAL USE CASES RESHAPING YOUR REOPENING

During times of crisis, business operations are constantly tested by rapidly evolving challenges. These challenges ranged from large-scale work-at-home policies to simple travel restrictions in the most recent COVID-19 pandemic. Enterprise IT teams have already planned to connect their critical processes, applications, data, work centers, and networks during these major emergencies.

When preparing for unpredictable or "black swan" events, enterprise agility is critical for building business resilience. Many enterprises, like governments, are approaching the road to recovery with new policies and phases. The following use cases consider the popular practices of social distancing and discuss how to deploy proximity tracing on the road to business recovery. Whether leveraging the widespread adoption of Bluetooth technology in today's connected world to divert traffic away from threatening hot zones—similar to the workzone traffic alerts in your everyday commute—or gaining rapid real-time visuals of your personnel and guests for feedback and reporting, learn how Mist can help you along your reopening journey.

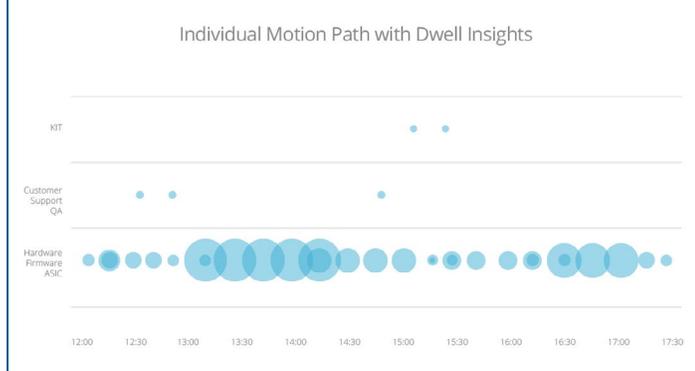
¹ <https://www.blog.google/inside-google/company-announcements/apple-and-google-partner-covid-19-contact-tracing-technology>

² <https://www.cdc.gov/coronavirus/2019-ncov/php/open-america/contact-tracing.html>

User Journey Mapping

The Mist Solution allows you to rewind and replay the location history of individuals³ who may have self-identified to you for having been exposed to COVID-19. No longer do you need to rely on a person's memory to recall where the person has been on campus, and how much time they spent there. The Mist analytics platform will collate this data for you³ to leverage and control possible further exposure of COVID-19.

FIG. 1: MIST USER JOURNEY MAPPING



Proximity Tracing

Once you have the user journey, the next question is, 'Who else was there in the proximity of the exposed individual?' Leveraging Wi-Fi and Bluetooth Low Energy (BLE), Mist works with BLE enabled associate badges and/or Mobile apps with the Mist SDK integrated to provide location services. Mist Analytics Platform can process the location data and provide details on not only the impacted person's journey³, but also other people in the proximity of that individual in the past 24-48 hours or even 2 weeks or more.

FIG. 2: MIST PROXIMITY TRACING

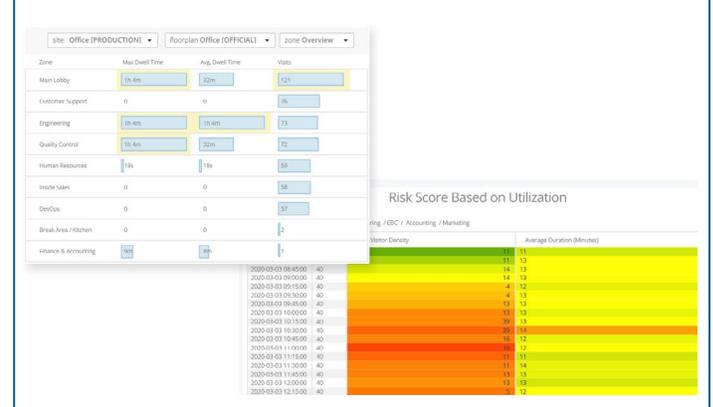
Tracing by Area Visited

Time	Zone Name	# of Devices Near by	Devices Close by
2020-03-03 11:00:00	Hardware / Firmware / ASIC	11	Galaxy A20, Galaxy S8, iPhone 8, TCL60x-55669900, ThinkPad G1
2020-03-03 11:10:00	Customer Support / QA	11	Galaxy A20, iPhone XR, MPPPro-Late-2016, ASUS VivoBook S15, Mi
2020-03-03 11:15:00	Customer Support / QA	14	iPhone 11, Galaxy S7, AppleWatchS5, TCL60x-55669900, MacBook
2020-03-03 11:15:00	Customer Support / QA	14	Galaxy S8, LenovoThinkPad X1, iPhone 11, Galaxy A20, MBPro, Th
2020-03-03 11:30:00	Engineering / EBC	4	Lenovo-Yoga930, iPadPro-11, Galaxy S8, iPhone X, MacBookAir, IP
2020-03-03 11:45:00	Engineering / EBC	4	iPhone X, iPhone 11, Galaxy S8, ThinkPad P1, AppleWatch S5, MB
2020-03-03 12:00:00	Engineering / EBC	13	Galaxy S8, iPhone 11, ThinkPad G1, ASUS-ZenBookPro-Duo, Think
2020-03-03 12:15:00	Hardware / Firmware / ASIC	13	Galaxy S8, iPhone X, iPhone 8, ThinkPad G1, iPhone 11, MBPro L3
2020-03-03 12:15:00	Hardware / Firmware / ASIC	39	iPhone X, iPhone X, Galaxy S8, ThinkPad P1, ThinkPad X1, MBPro
2020-03-03 12:15:00	Hardware / Firmware / ASIC	39	Galaxy S8, ThinkPad P1, ASUS-ZenBook-14, MacBook-Air, iPhone
2020-03-03 12:15:00	Engineering / EBC	16	Galaxy A20, Galaxy S8, TCL60x-55669900, ThinkPad P1, MBPro-Lat
2020-03-03 13:00:00	Customer Support / QA	16	Galaxy A20, iPhone 11, TCL60x-55669900, HP-Envy-x360, iPhone 8
2020-03-03 13:00:00	Engineering / EBC	11	iPhone 11, Galaxy S8, iPhone X, ThinkPad P1, MBPro-2019, IPhon
2020-03-03 13:00:00	Engineering / EBC	11	Lenovo0098, Galaxy S7, iPhone 11, ThinkPad P1, MacBookAir, iPh
2020-03-03 13:15:00	Engineering / EBC	13	Galaxy A20, Galaxy S8, ThinkPad P1, Galaxy A51, Galaxy S10 Plus
2020-03-03 13:45:00	Hardware / Firmware / ASIC	13	Galaxy A20, Galaxy S8, HP-Spectre-Xolo, iPhone X8, iPhone 11, M
2020-03-03 13:45:00	Hardware / Firmware / ASIC	5	AppleWatch-S4, iPhone X, Galaxy S8, MacBook Air, ThinkPad P1,
2020-03-03 14:00:00	Hardware / Firmware / ASIC	5	iPhone 10, Galaxy S7, AppleWatch-S4, TCL60x-55669900, MBPro-L3
2020-03-03 14:10:00	Engineering / EBC	20	Galaxy A20, Galaxy S8, iPhone 10, TCL60x-55669900, ThinkPad P1
2020-03-03 14:30:00	Engineering / EBC	20	Lenovo-Mix320, Galaxy S7, iPhone X, ThinkPad P1, MacBook-Air
2020-03-03 16:45:00	Hardware / Firmware / ASIC	13	iPhone X, Galaxy S8, iPhone X, ThinkPad P1, MacBook Air, IPhon

Hot Zone Alerting

With the Mist solution, you can disperse or divert traffic away from congested areas with real-time, location-based alerting. View trends⁴ over time to identify high traffic areas for proactive measures and make this data available via the mobile app to let visitors know what locations or congested areas to avoid.

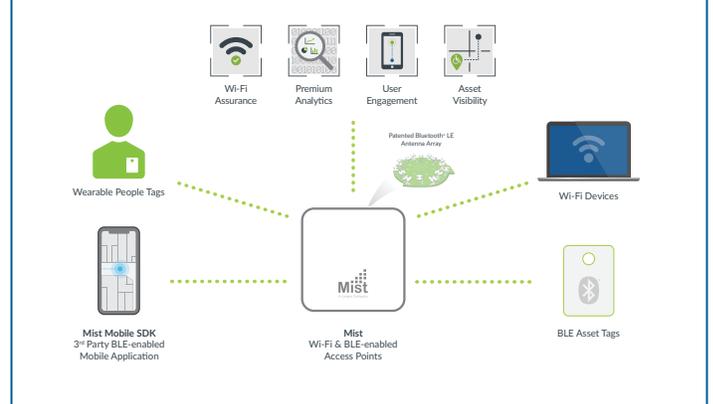
FIG. 3: MIST HOT ZONE ALERTING



SOLUTION COMPONENTS

- **Access Points:** The Mist family of access points supports standards-based Wi-Fi, vBLE, and IoT to locate and interact with individuals and devices.
- **Mist Cloud Services:** Mist's Wi-Fi Assurance, User Engagement, and Asset Visibility services enable basic user continuity services such as zone-based analytics and real-time reporting on hot zones by leveraging Wi-Fi and Bluetooth LE. With Mist's Premium Analytics Service, customers can benefit from user journey reports (either via connected Wi-Fi, Bluetooth Badges, or Mobile apps), and proximity tracing and compliance reports to indicate when prescribed capacity utilization restrictions were actually followed. In addition, given the focus on sanitation and cleanliness, customers can also track areas where janitorial staff have visited after business hours to ensure they were able to direct their attention to all areas of the building.

FIG. 4: THE MIST SOLUTION AT WORK



3 This is based on the ID of a device, badge, or mobile application. Specific user identities are only associated with these IDs when a) the customer has issued the device or badge using some or all of an individual's name in the device identification (e.g., J.Smith's laptop), or b) for personal devices, when the end user has chosen to use his/her name on the device (e.g., Jim's iPhone). Mobile applications using the Mist SDK only collect data as configured by the customer and transmit data directly to the customer. Mist does not process or store the data except for location information.

4 This is done based on quantity of devices and their locations, not based on individual identities.

FIG. 5: MIST CLOUD SERVICES SUPPORTING POPULAR CONTACT TRACING USE CASES

	User Journey Map*	Proximity Tracing	Hotzone Notification
Solution Components			
Mist AP	Y	Y	Y
Wi-Fi Assurance Subscription	Via Connected Wi-Fi Devices	Via connected Wi-Fi devices	Via unconnected/connected Wi-Fi devices
User Engagement Subscription	Via mobile app with Mist SDK integrated	Via mobile app with Mist SDK integrated	Via mobile app with Mist SDK integrated
Asset Visibility Subscription	Via BLE badges	Via BLE badges	Via BLE badges/passive BLE
Premium Analytics Subscription	Y	Y	
Third Party	Mobile app, BLE badges or badge sleeves	Mobile app, BLE badges or badge sleeves	

Notes: Wi-Fi Assurance, Asset Visibility or User Engagement Subscriptions are available to customers based on which source of location data they want to use. For example, if a customer wants to do badges, only Asset Visibility is required.

*If customer wants user journey reports or contact tracing/compliance reports – then it is recommended to purchase Premium Analytics. Premium Analytics is not needed for hot zone notification and visualization.

SUMMARY

Mist Supports the Contact Tracing Solution Enterprises Need

Mist is the only solution in the market that offers a converged Wi-Fi and vBLE based location platform as part of its AI-driven Enterprise portfolio in supporting contact tracing and hot zone detection. This innovative vBLE solution leverages the patented directional antenna array built into Mist APs along with the unsupervised machine learning from the Mist Cloud and delivers location services with any **3rd party BLE badge and tag** as well as blue dot solutions for mobile applications. In addition, the new enterprise norm demands scalable and real-time location services like hot zone detections and alerts along with programmable analytics to support journey mapping and proximity tracing.

Mist Privacy & Resilience in the Cloud

Protecting customer data is mission critical to Mist (a Juniper Company), as is helping customers address privacy compliance regulations. Mist does not require any health information to provide location information or to optimize IT networks. Mist empowers customers by putting them in control of the data they want to process to optimize their IT networks and support business continuity initiatives.

More importantly, the Mist Cloud is co-located in **tier-1** datacenters with industry standard **certifications**. These datacenters feature state of the art physical and cyber security with highly reliable designs. These services are replicated across multiple availability zones per AWS services, so that customer-facing services fail over rapidly in the event of any catastrophic failure. Please reference **Mist’s Technical Brief on AI-Driven Trust**.

For additional resources or information, please visit: <https://www.mist.com/contact-tracing>.

