USE CASE 3 BIO-METRIC SAFETY AT AIRPORTS

As the world is moving forward towards the post pandemic globalization, organizations are planning recoveries and fortify business continuity plans. Business leaders in transportation and specially aviation industry need to develop a holistic approach to managing new health risks and rethinking passenger and workforce safety, maximizing productivity, and enabling smoother operations to handle ever growing traffic.

Airport industry across the globe are leveraging advanced technologies to re-boot operations and safety to ensure passengers and employees health is not at risk, as it is imperative to implement regular precautionary and protective measures for safe environment.

UNLOCSafe is an HCLTech AI based solution which can been used in the airport premises for ensuring seamless entry/exit of passengers to/from the arrivals or departure gates based on thermal camera, body temperature measurement of passengers. The passengers showing higher than usual body temperatures can be pulled out and tested separately without blocking the other passengers and keeping everyone safe.

- Thermal Sensing, Mask Detection, Social Distancing, Contact Tracing, Touch less Operations, Wellness and traffic forecasting at gates
- Manual check leads to covid19 compliance violation and causes huge delays and overcrowding at entrance/exit of airports as well as boarding gates/immigration etc.
- Lack of mechanism to monitor unmanned areas, & ensuring contact tracing
- Lack of integrated real time view and alerting stakeholders
- Lack of automatic mechanism for trend prediction for future planning.

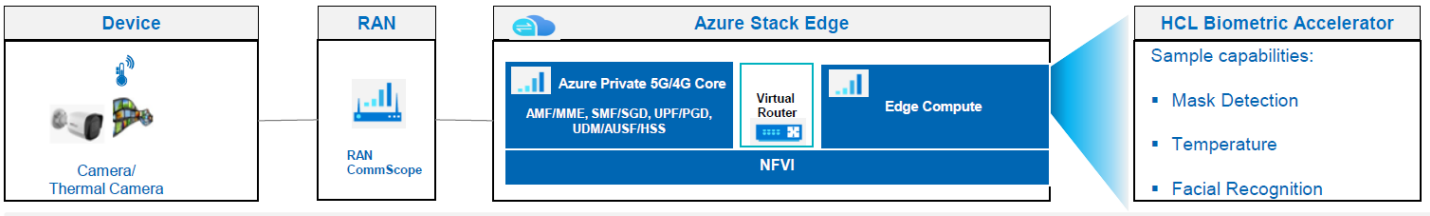
HCL proposes to support the Private Network Solution as the following solution components

- Converged 5G function: Converged 5G core covering the core network functions supporting both 4G & SA 5G solutions
- RAN solutions:
    - O-RAN: RAN solution based on the architectures defined by the O-RAN Alliance providing technical and non-technical advantages over proprietary and closed RAN solutions.
    - vRAN: The v-RAN architecture supports both higher layer split (3GPP Option 2) and a lower layer split (3GPP Option 7 / ORAN 7.2 or CPRI).
- Network Management function: The ease of management of private networks is a key requirement. The Private Network solution includes a single pane of glass management GUI allowing all management functions to be executed including:
    - Software management using zero touch provisioning (ZTP) procedure for all parts of the private network (RAN, Core and applications) for initial SW deployment and SW upgrades.
    - Configuration Management: Monitoring of alarms, KPI and statistics: The Network Management function can be part of the private network or centrally located at a central data center or a public cloud and can support management of multiple private networks.

Architecture Description based on Azure PMEC platform

- Architect, Design and Deploy Key 5G/4G PMEC in support of industry sue cases
- Serve as an innovation incubator for monetization opportunities in key verticals encompassing Manufacturing, Transportation, Retail, Healthcare, and Smart City
- As a collaboratively operating model, to develop/port, deploy and test industry specific uses cases on MSFT PMEC and share feedback with MSFT

Figure 7 : Architecture with ASE



Service Management Approach

- A governance forum to be built in order to oversee program prioritization, architecture evolution and interaction with HCL/MSFT
- HCL and MSFT will conduct weekly review: status update, progress, issues, needs identification, and assignment of actions.
- HCL will develop, update, and publish a joint plan of record for the project activities and report
- Stakeholders include:
    - MSFT 5G PMEC Program Team
    - ERS MSFT Account Delivery Team
    - HCL Mode-2 5G team overseeing and setup 5G/4G including all components of RAN, Core, and applications at the edge
- Passengers can complete entry with COVID19 compliance checks in 5-10 secs VS. 5 mins of time taken by manual checks
- Easy automated tracking and reporting to multiple stakeholders within the organization for quick response
- Temperature Accuracy : ±.03° C
- Mask Detection Accuracy: >90% upto 20 feet
- Social distancing breach: >90% accuracy upto 20 feet (cameras)
- Social distancing breach at any place in office campus (wearables)
- Automated Dashboards & reports for administration

Following is the list of required items for Biometric Use Case

1. Azure Stack Edge server with 4 cores running the unlocSafe service
2. 5G Core service deployed in ASE server
3. 5G RAN (CU/DU) deployed in ASE server
4. 5G Radio Unit + Antenna + GPS
5. Thermal Cameras – 2 to 4 per area
6. 5G connectivity dongles (either WiFi or Ethernet)
7. Power Supply and cables as needed