Solution brief
Mavenir's Intelligent IoT PLATFORM (IIoTP)

Mavenir's Intelligent IoT Platform (IIoTP) provides an easy to use, yet an extremely capable platform where Artificial intelligence (AI) is applied to data streams from the IoT sensors to analyse and generate alerts for actionable insights. The comprehensive solution is built on cloud native frameworks, leverages recent technology advancements in 5G, Edge Computing and AI to unleash the potential of new IoT based use cases across several business verticals

Enterprises are increasingly looking to implement IoT use cases and solutions that have been enabled by the recent rollout of 5G networks. A large number and variety of sensors are being deployed and the resulting huge amount of data needs to be analysed in near real time with very low latency to derive actionable insights. As a result, the use of AI and Analytics at scale has become imperative.

Mavenir's Intelligent IoT Platform is a unique offering in the marketplace where a comprehensive solution that can be deployed independently or in conjunction with the Intelligent Video Analytics (IVA) and other AI Applications on any cloud or on-prem hardware to realize end to end use cases based on IoT.

Realize Low Latency End to End IoT cases with Comprehensive Solution

Mavenir's Intelligent IoT Platform has been consciously designed to deliver a solution that ensure very quick time to value and return on investments. The following sections describe the core capabilities and their value to enterprises.

Built for ease of use
The platform offers an intuitive point and click user interface where insights are plotted on preconfigured dash boards for business users to understand patterns and trends. Rules can be specified to generate alerts that can be delivered as emails or text messages on phones or as MQTT events on message servers. The interface has been designed for ease of use by business users such as floor supervisors of manufacturing plants, municipal authorities of smart cities, work site managers of mines, building managers of smart buildings, smart campus handling professionals and others handling IoT deployments.

Built for rapid onboarding of variety of sensors used
Mavenir's Intelligent IoT Platform allows quick onboarding of the various sensors in the deployment, configuration of rules specific to a particular type of sensor and for generating insights. Sensors that support MQTT can be easily integrated irrespective of the communication technology (5G, WiFi, LoRA, SigFox, Bluetooth, Zigbee).

Unified dashboards and Integration with other systems of engagement to realize End to End use cases

Alerts from other Applications such as Intelligent Video Analytics (IVA) can also be integrated and shown on a unified dashboard. Message brokers can be used to orchestrate communication of detected insights with PLC (Production Line Controllers) for instance on typical manufacturing floors. Message brokers are based of MQTT protocols where events can be published, and clients can subscribe to receive and react upon them. This allows realization and automation of End-to-End use cases
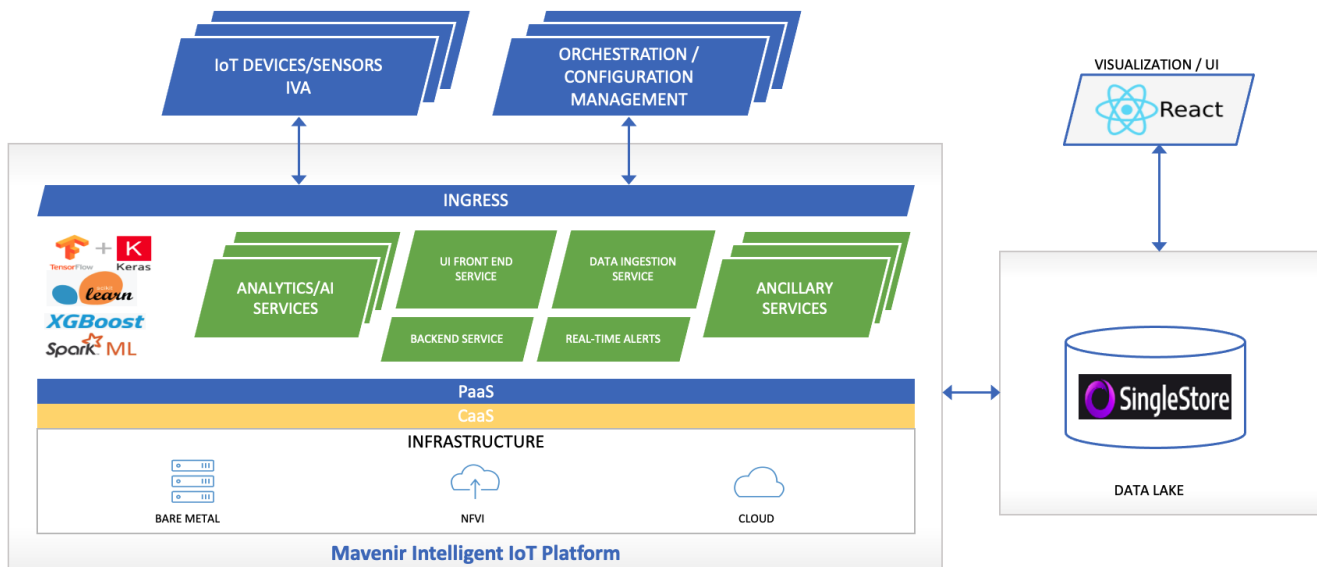

Figure 1: Mavenir's Intelligent IoT (IIoTP) High-level Architecture

Deploy on the Cloud and the Edge

Built on Cloud native framework, Mavenir's Intelligent IoT Platform can be deployed on any cloud based on the performance requirements. The data processing and insight generation can happen on the Edge to achieve low latency and the insights could be sent to the public cloud for storage and long-term analysis. As described in Figure 1, features of the application are delivered as containerized micro services, that expands to scale, ensures high availability of services and supports variety of deployments.

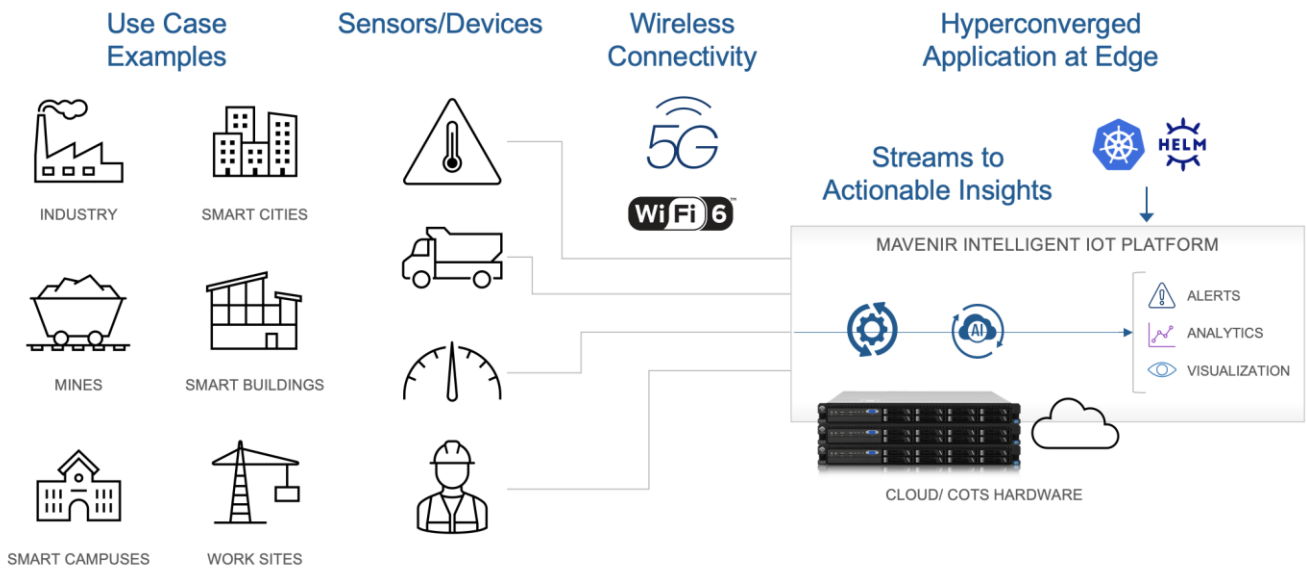## Realize value of IoT, AI and Analytics in various domains

Mavenir's Intelligent IoT Platform can be deployed in various domains. This section identifies sample domains and the value.

As depicted in Figure 2, Mavenir's Intelligent IoT Platform can be used to integrate data from several sensors, have them analysed with set of rules and AI to generate event based actionable alerts. The events can be integrated with down-stream interfaces for end-to-end realization of variety of use cases

Smart Manufacturing

Data from Machines involved with manufacturing, Robots, Control panels, Sensors that are part of process automation can be integrated with the IIoTP Platform providing visibility, monitoring for any failures and degradations in performance, generate insights for operational optimization and predict maintenance. Operations can be automated, costs and downtime reduced, and performance improved.

Smart Cities and Smart Campuses

Figure 2: Mavenir's Intelligent IoT (IIoTP) Platform

To improve the living condition, safety and infrastructure management of cities and campuses, smart lamp poles having several sensors for capturing air quality, humidity, temperature, visibility; smart bins for waste handling; smart traffic posts for monitoring traffic, smart water meters and smart energy meters are being deployed. Data from these when fed to the IIoTP can be used to generate insights and alerts when specific attention is needed; status of equipment and need for maintenance is identified. These help the municipal/campus authorities to automate or manage the handling of the infrastructure and improve the experience and safety of the dwellers.

Smart buildings

Data from sensors deployed in the building such as those for Heating, Ventilation, Air-conditioning(HVAC), Smoke/Fire detector can be analysed by the IIoTP platform to trigger

actions to maintain the temperature and air quality; turn on the window blinds automatically; optimize the lighting based on the ambience; save energy costs by turning on/off the lights smartly; manage the access via control of smart doors and posts; automatically turn on the sprinklers in the room in the event of smoke/fire detected. These help in effective and efficient management of the building and improve the comfort of the building occupants.

Work site safety and Equipment handling
Data from Sensors deployed at the mining/construction site such as those in the equipment and those carried/worn by personnel can be integrated with the Intelligent IoT Platform and analysed for monitoring any potential hazards to the environment; Assets can be tracked; health condition identified, and any maintenance needs predicted. Alerts generated can be used to trigger actions automatically for rapid response or provided to an operator via a custom dashboard for actioning. Safety of worksite personnel is enhanced; Availability of equipment is enhanced and the need for personnel is reduced in hazardous environments.
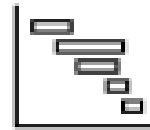
Why Mavenir for IoT Analytics

Large number of sensors can be integrated

Cloud-native design with microservice architecture

Unified Insights from Multiple Applications and E2E use case Realization

Deliver Low latency and real-time insights

Intuitive user interface for Ease of Use

Bundled with 5G networks

Intelligent IoT Platform Analytics from Mavenir lowers the cost of ownership and accelerates AIoT journeys for Enterprises. Designed for domain experts, our self-intuitive user interface can quickly configure sensors and generate useful insights rapidly, eliminating dependencies on data scientists. The solution is designed to reduce time to deploy and accelerates time to value. The solution is designed to leverage hardware with 5G networks, providing exponential

experiences in performance across workloads and broadband to scale several use cases. Built on cloud native framework, the solution can be deployed on several cloud infrastructures. An open architecture has been adopted to integrate with sub systems from multiple vendors typically engaged for implementing actions on the derived insights. Mavenir is a unique vendor capable of delivering a comprehensive solution with 5G Private network, eliminating dependencies of several vendors resulting in optimized deployments & maintenance.

Learn more about Mavenir's Intelligent IoT Platform on the Mavenir website.

About Mavenir

Mavenir is building the future of networks and pioneering advanced technology, focusing on the vision of a single, software-based automated network that runs on any cloud. As the industry's only end-to-end, cloud-native network software provider, Mavenir is transforming the way the world connects and employs AI solutions while accelerating software network transformation for 250+ Communications Service Providers in over 120 countries, which serve more than 50% of the world's subscribers.

For more on Mavenir Solutions please visit our website at www.mavenir.com