



# Edge Computing Use Case Automation of Brownfield IoT deployments

While there has been enough talk about use cases like autonomous driving and remote medical surgery, Edge computing can also play a pivotal role even in Brownfield IOT deployments.

## Problem Statement

Sensors typically capture a variety of information that can enable almost real time decision making. However, traditional sensors typically do not have connectivity due to which integration with an IoT platform to facilitate automated action can be challenging.

## Solution

We at Happiest Minds have attempted to resolve this challenge by capturing an image of the sensor and performing image recognition through analytics. This determines the value of the sensor and eliminates the need for connectivity.

For near real-time processing, the analytics is performed at the edge itself thus reducing delays and providing faster results compared to traditional centralized computing.

## Solution Components

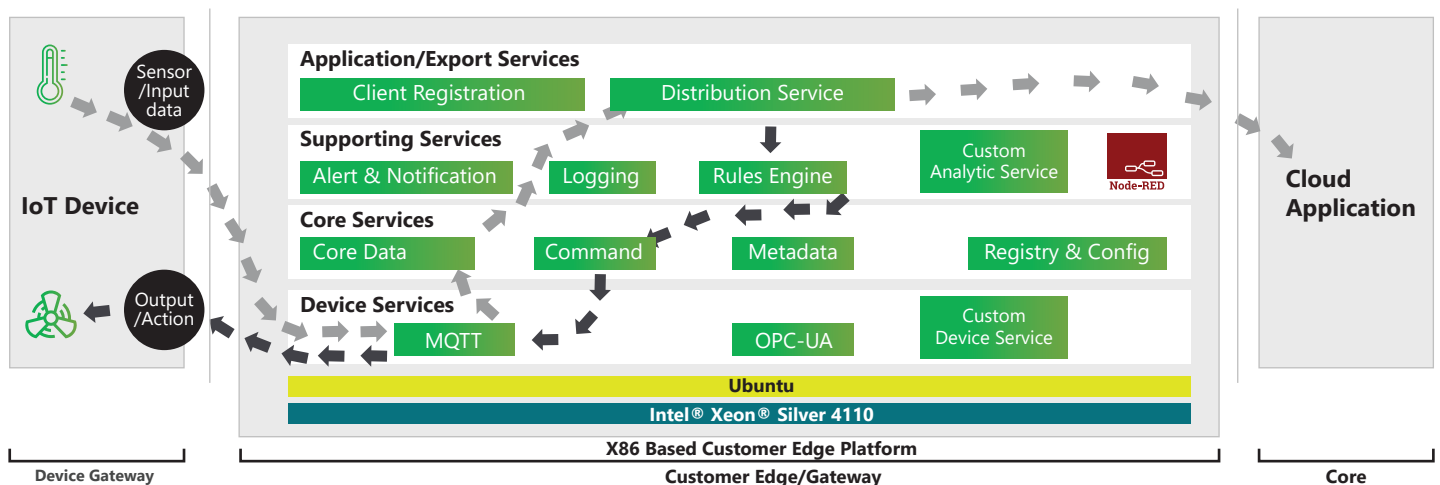
The solution that we have used at the edge is based on EdgeX Foundry. We chose EdgeX foundry as it offers the following benefits:

EdgeX foundry is a vendor neutral open source project hosted by the Linux foundation which helps in building a common open framework for IoT Edge Computing. Also, it is agnostic to hardware CPU, OS and application environments to support customer preferences for differentiation.

Provides a flexible microservices architecture that can support the use of any combination of heterogeneous ingredients plugged into a common interoperability foundation. Also, allows services to scale up and down based on device capability and use case.

Enable reference microservices (e.g., northbound message bus, rules engine, database) to be quickly replaced with a preferred open source or proprietary alternative.

Enable support for any combination of device interfaces to normalize connectivity protocols (both existing standards and proprietary) into a common API.



As can be seen in this diagram, the input data from the sensor is captured with the camera attached to the customer equipment or gateway and processed at the customer edge to determine temperature. This data is then sent to the edge gateway and action is taken based on the rule processing result. The action information is sent to the customer edge device in near real time and only the data about the event is sent to the cloud for storage and audit.

Likewise, there is a possibility of many such use cases or challenges being addressed by the effective use of edge computing and edge analytics.

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### About Happiest Minds

Happiest Minds enables digital transformation for enterprises and technology providers by delivering seamless customer experience, business efficiency and actionable insights through an integrated set of disruptive technologies: big data analytics, AI & cognitive computing, Internet of Things, mobility, cloud, security, unified communications, SDN-NFV, RPA, etc. Happiest Minds offers domain-centric solutions applying skills, IPs and functional expertise in IT services, product engineering, infrastructure management and security. These services have applicability across industry sectors such as retail, consumer packaged goods, edutech, e-commerce, banking, insurance, hi-tech, engineering R&D, manufacturing, automotive and travel/transportation/hospitality.

Headquartered in Bangalore, India; Happiest Minds has operations in the US, UK, The Netherlands, Australia and Middle East.