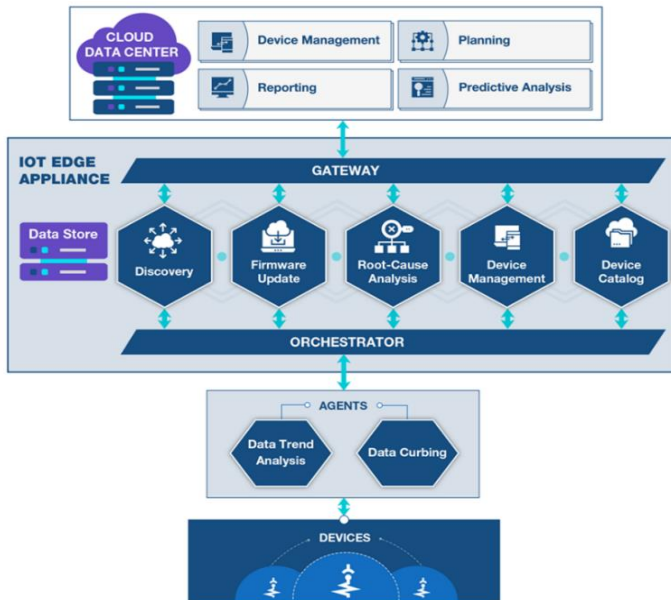


A PRACTICAL FRAMEWORK TO IIOT EDGE

The Industrial “Revolution” at the Edge

Have you accounted for the “edge” in your IoT journey? This software-based model radically improves operational efficiency bringing data governance, analysis and decision-making to the most optimal location close to action, reduces backend cost, solves critical latency-depending issues while improving serviceability of devices.

Vixtera is developing the IIoT edge (ViEdge) software and delivering integrated solutions for the mission-critical applications within Data Center and Industrial Devices asset-intensive industries. The ViEdge auto-discovers, configures and establishes full control of any device while filtering, balancing and contextualizing the collected data. It detects and identifies root cause of the problem facilitating rapid response to any failure and using it as a reliable source (label) for NN training and AI/DL modeling helping to produce consistently good-quality data for predictive services.



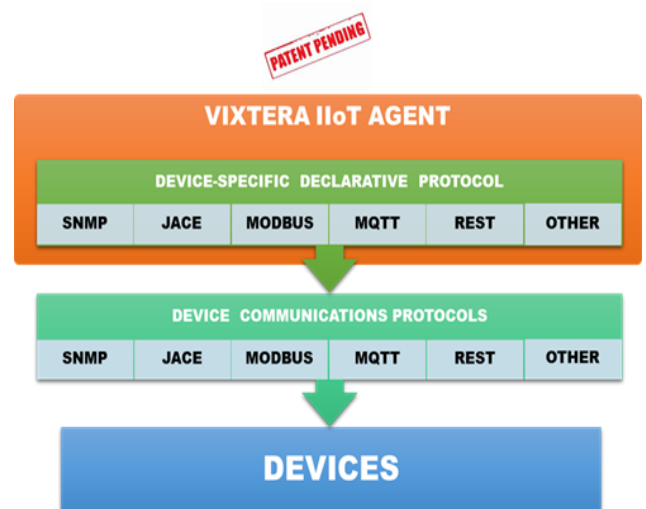
Out of the BOX

- Ubiquitous Connectivity
- Multifaceted Data Curation
- Root cause analysis
- Real-time failure detection
- Predictive Analysis
- Up to the minute view
- Asset optimization

The Hidden Truth of IIoT Device Connectivity

You have to connect before being able to collect any data. In the perfect world, you pick a communication protocol, buy or develop a driver, or get an SDK, connect your device and collect the data. Well, you might be in for a bitter surprise having to code again while adapting driver to a device, and then again to deploy it. And your troubles are not over having to “mingle” with code again, and again while upgrading the software – think about large-scale deployment. The enormity of different types of devices, connectivity and comm protocols drives complexity of IoT deployments and operation. Hence, it takes a far-reaching approach to solve this problem.

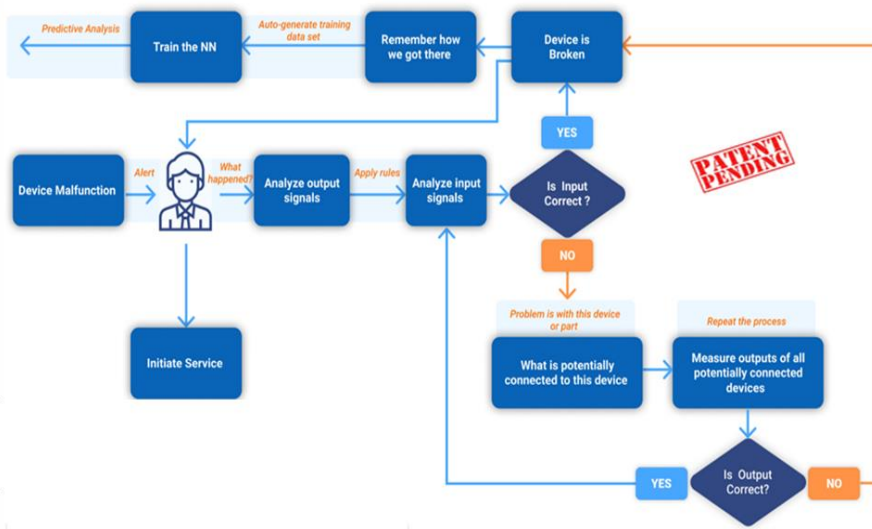
Vixtera developed and patented technique allowing seamless connectivity of any device across any comm protocol without any need for a driver or code. You simply create a JSON text file using declarative language while configuring a declarative protocol specific to your device - no driver and minimum effort is required. You then merely copy/paste this file to communicate with any device or to perform the frequent upgrades. The file and protocol can be easily customized adapting to any change, like new configurations or sensors, without coding or specialized skill.



A PRACTICAL FRAMEWORK TO IIOT EDGE

Identifying IIoT Problem is like Looking for a Needle in a Haystack

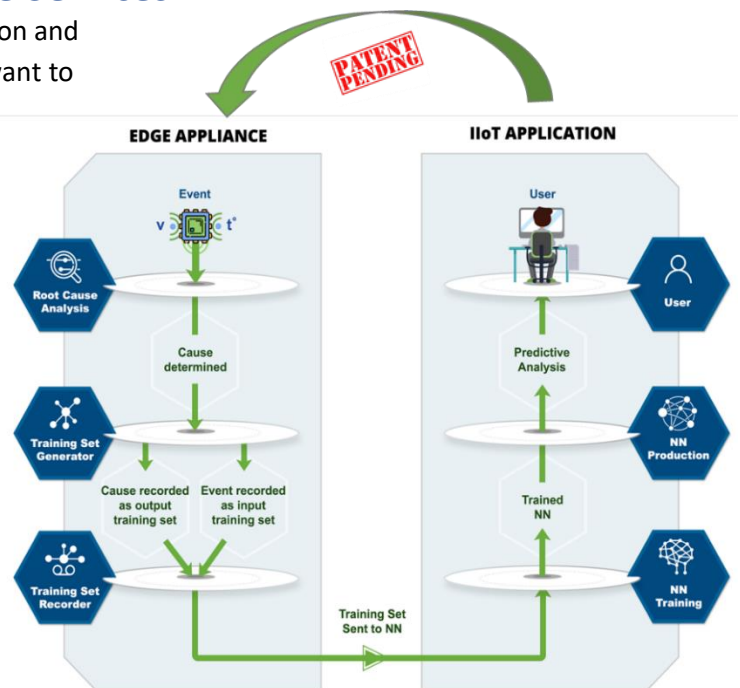
Running mission-critical applications and working in highly-constrained environment leaves no room for failure and requires a solution that: a) **pinpoints a failure in real time**; b) provides mechanism for prediction of potential problems.



Vixtera developed root cause analysis (RCA) algorithm helping to identify in real time anomalies and source of the failure. The patented methodology makes certain assumptions about input and outputs of malfunctioning devices, its internal and external environment – all in plurality of connected ecosystem. It promptly identifies a root cause and a chain of events that’s leading to a problem providing unprecedented ability for instant gratification and radical improvement of device serviceability and use of resources. The failure event can be used as an “etalon”, a reliable label, for automatic NN training and AI/DL modeling.

Building Foundation of Reliable Predictive Services

One of the hardest problems in Deep Learning (DL) is collection and identification of data that correlates with the outcome you want to predict. In order for neural network (NN) to be used, it has to be trained. Each training data set consists of input and “etalon” data sets. The “etalon” data set is used for comparison between data sets generated by NN and desired data sets. The biggest challenge with today’s NN training is that “etalon” data sets have to be created manually (i.e. labeling) – a time-consuming, costly and error-prone process. Vixtera developed and patented Root Cause Analysis algorithm explicitly identifying and using cause of failure as a reliable source (label) for auto-generation of Neural Network (NN) training data sets. This method provides significant uplifting helping to **eliminate manual, error-prone labeling for AI/DL modeling providing machine-based, automatic, accurate and dependable source for predictive analysis**. Therefore, allowing generation of trustworthy data for variety of applications and services.



We make it Simple to Facilitate your IIoT journey

The ViEdge creates out of the box operational environment curating, analyzing and instantly acting on collected data. We use pre-built and scalable software framework with core run-time and application components for **rapid productization** of your solution, and offer domain expertise and capabilities for seamless integration with choice of platforms and clouds helping to jumpstart your IIoT journey.

