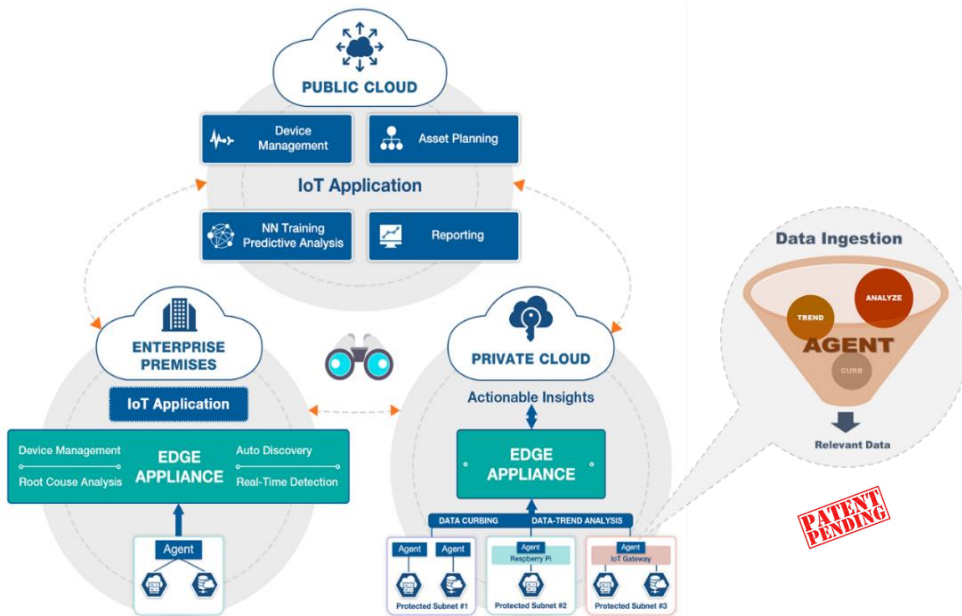


A PRACTICAL FRAMEWORK TO IIOT EDGE

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 in the most optimal location close to action, reduces backend cost, solves critical latency-depending issues while improving serviceability and productivity of devices.

Vixtera is developing the IIoT Edge software and delivering integrated solutions for the mission-critical applications within asset-intensive industries. The virtualized edge appliance uses patented technologies helping to create the environment for connected devices while collecting, curating, analyzing and rapidly acting on the streaming data delivering commercially viable IIoT solutions.



THE VALUE PROPS

CONNECT

- Ubiquitous Connectivity
- Context-based data curation

ANALYZE

- Provisional Analysis
- Real-time Analysis
- Predictive Analysis
- Inventory Analysis

ACT

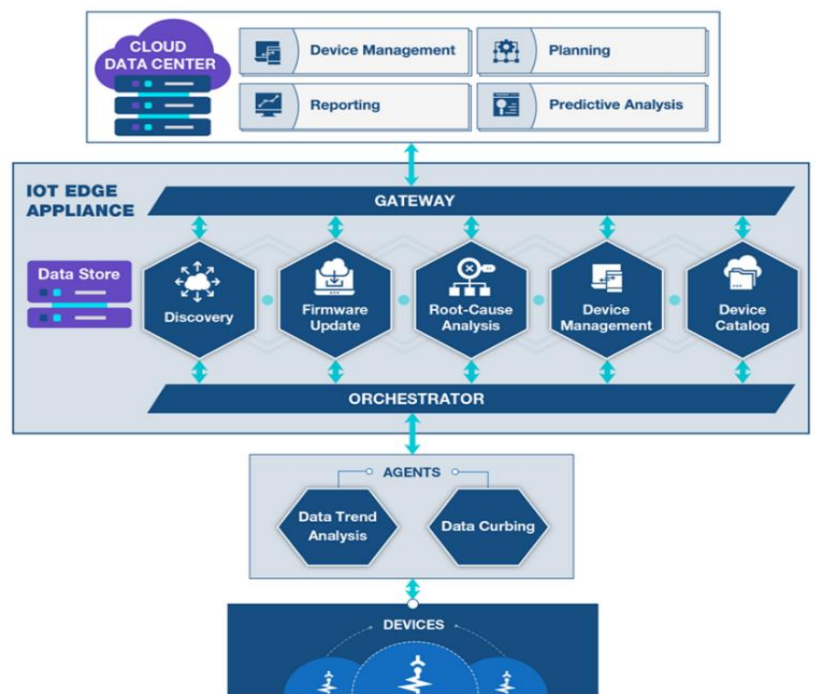
- Up-to-the-minute View
- Real-time Failure Detection
- Predictive Maintenance
- Planning & Digital Modeling

Distributed Architecture and Data Agility

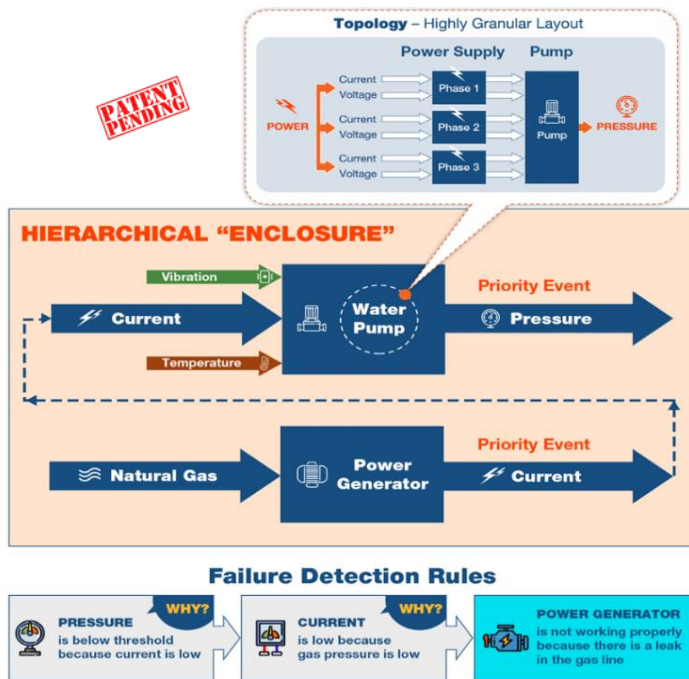
Vixtera IIoT Edge employs **innovative techniques, scalable architecture and modular approach** offering unique set of capabilities and valued benefits for: ubiquitous device connectivity (requires no SDKs, drivers or integration); context-based data curation; root cause analysis and real-time failure detection; auto-generation of NN training data sets for AI/DL; predictive analysis, asset planning and digital modeling.

The appliance is **cloud agnostic** and can be easily adapted to any cloud or premises. It allows rapid integration with legacy OTs and global IoT platforms establishing well-tuned end2end ecosystem.

As the result, Vixtera IIoT Edge helps to create the environment for high-performing stream processes with actionable multifaceted analysis to any type of devices driving transformational evolution toward **subscription- and outcome-based services.**



A PRACTICAL FRAMEWORK TO IIOT EDGE

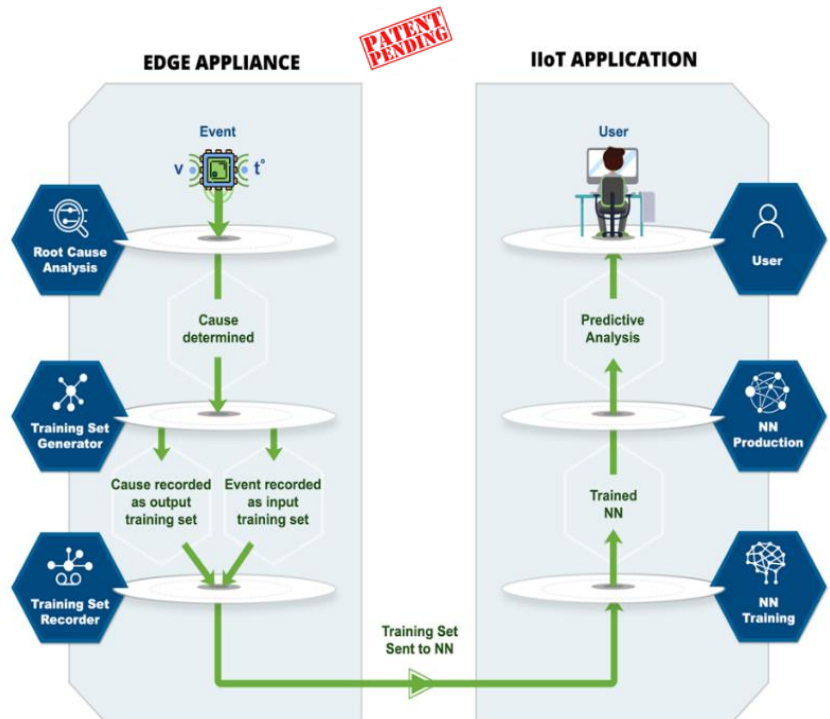


Real-Time Failure Detection

Running mission-critical applications and working in highly-constrained environment leaves no room for failure and requires a solution that, a) **pinpoints a problem with high-level of accuracy**; b) provides reliable source of failure in real time; c) equips with robust mechanism for prevention and prediction of potential problems. Vixtera developed patented algorithm utilizing root cause analysis (RCA) for **real-time failure detection**. Based on FMEA methodology for identifying and evaluating potential failures, it makes certain assumptions about malfunctioning device, its input and outputs as well as internal and external environment in the plurality of entire ecosystem of connected devices. This innovation radically improves serviceability of IIoT devices reducing unscheduled downtime and improving time-to-repair fulfillment.

Predictive Analysis

One of the hardest problems in Deep Learning (DL), a widely used AI technique for predictive analysis, 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 and error-prone process. To resolve this challenge, Vixtera developed patented methodology using cause of failure to **auto-generate the training data sets for AI/DL eliminating human involvement**, providing reliable source for NN training and predictive analysis driving variety of new applications including, predictive maintenance, asset planning and digital modeling.



We Deliver

Vixtera developed working experience and core expertise to turn technology into highly-efficient operational capability. We will equip you with tools and solutions to jump-start your IIoT journey, **diligently walk you from architectural design, through proof of concepts and to the end2end IIoT solutions** while delivering tangible benefits to your business.

