IoT Analytics

redeem
ACCELERATING PRODUCT SUCCESS

Introduction

In an internet of things World, everything and Everybody is connected From consumers in Sensor-rich environments To enterprises harnessing New technologies like Robotics and machine Learning.

But without analytics the Internet of things would Be like trying to hear a Single voice in a crowd of Millions.

Iot relies on analytics 'on The edge' and in the cloud To fulfil the tremendous Promise of our Increasingly connected World.

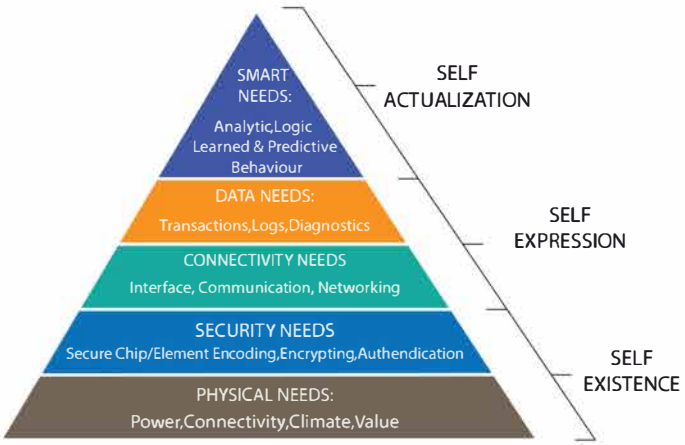
Why IoT Analytics?

Analysis of data from the internet of things will give us more concise predictions of what we will like, what we will need, and what we will do.

Meteorologists, retailers, urban planners, medical professionals and many other roles stand to benefit from the influx of IoT data.

The additional data provided by the Internet of Things enables organizations to generate real-time insights that benefit them in the present, also helps them to foresee future business trends in advance.

HIERARCHY of IoT Thing Needs



What Customers Need

- Understanding & addressing the domain specific needs
- To uncover trends that impact future objectives
- Improved efficiency with reduced cost
- Increased accuracy & speed of the deliverables
- A complete integral end-to-end solution
- Ideal for both casual & power users

From smart personal devices to smart homes to smart cities, the Internet of Things (IoT) is changing the way we work, play, travel, and even power our homes and offices. IoT-driven solutions carry a number of specific challenges when it comes to capturing, analyzing, and acting on data in a meaningful way. As a result, many enterprises will need to rethink the analytics strategies that have traditionally served them well.

IoT analytics challenges

- IoT Analytics Need to Balance Scale and Speed
- Some Analytics Will Occur at the Edge
- Event Streams Drive Real-Time Insights
- IoT Analysis is Only as Reliable as the Data
- Prediction Adds to the Power of IoT Analytics

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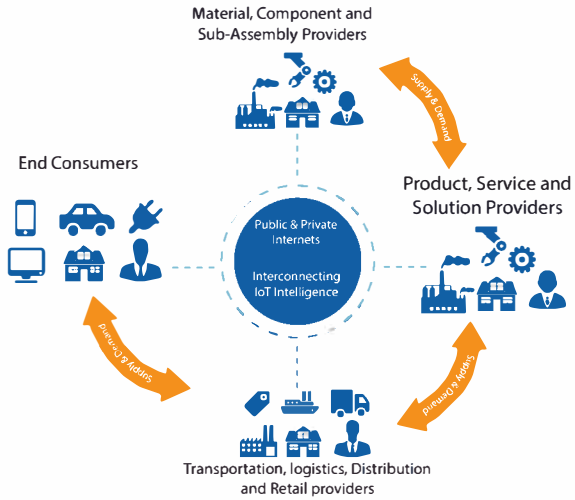
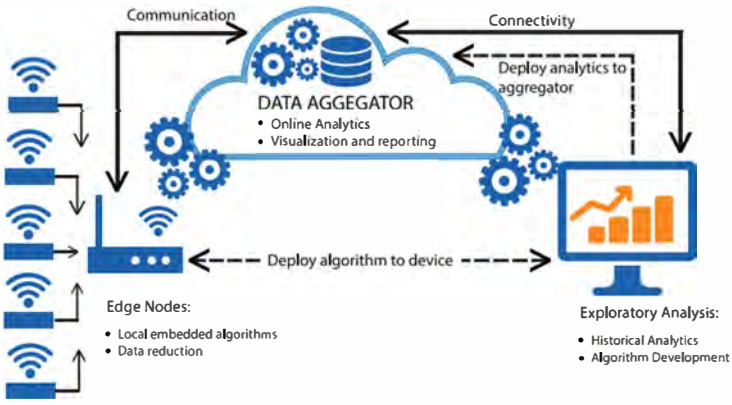
Industrial Internet of Things

Redeem focus is on Industrial IoT dealing with real-time data transfer from numerous and heterogeneous connected sensors, actuators and controllers. The IIoT focus areas span across industry verticals namely Oil & Gas, Energy & Utilities, Discrete & Process manufacturing, Strategic & Advanced Electronics, Telecommunication and Transportation Logistics. We are building industrial IoT solution for our customer considering economies of scale by partnering with M2M/IoT industry leading stakeholders who can provide us a platform with Standardized APIs that can simplify application development and quick deployment of solution. As any IoT solution is hollow without the analytics, Our Integrated Industrial IOT Solution shall gel with big data solution offering value rich insights to the customers. As part of IoT Analytics our solutions need to cater to both Edge, Fog/Cloud analytics.



IoT Analytics Architecture



What We Do

- After the deployment of our IoT sensors/devices we have edge nodes as well as cloud services for the data aggregation.
- On edge devices, the analysis is done in-memory and real time. So that the delay on the data being sent to the cloud is saved. At the same time the cloud storage also saved. Another way is to use cloud servers for the analysis as well.
- Once the data is sent to the cloud/edge devices the machine learning algorithms are used for the analysis.
- The output of the analysis is visualized and reported using an online dashboard either with tableau web dashboards created using Javascript, Node JS etc.

Use Cases

If IoT is that the backbone of IT infrastructure, IoT Analytics is that the key which will assist you produce meaningful insights from the large superfluity of knowledge that comes in every day.
IoT systems require Analytics for proper functioning, because it is based on these conclusions that critical decisions are made in enterprises.

1. Factory Automation

Factories that are automated are looking to start collecting more data and connecting their devices to each other. This, combined with smart storage systems that "remember" what is stored where, streamlines thOe factory, shipping, and storage experience through the IoT.

2. Cities

Small advancements toward "smart cities" are already becoming commonplace in many urban areas around the world. There's potential for data from the IoT to help improve the quality of life all over cities, particularly where large (public) services are involved.

3. Retail

Most innovations in retail have focused on the shopper's journey through the store selecting items. Good IoT analytics use cases will uncover better indicators as to how consumers interact with purchase experiences.

4. Real time data analysis for manufacturing sector

Manufacturers in all the major industries – electronics, automotive, chemical, durable goods, etc. have all heavily invested in IoT Analytics to improve their efficiency and production.

5. Video Analysis aids in surveillance

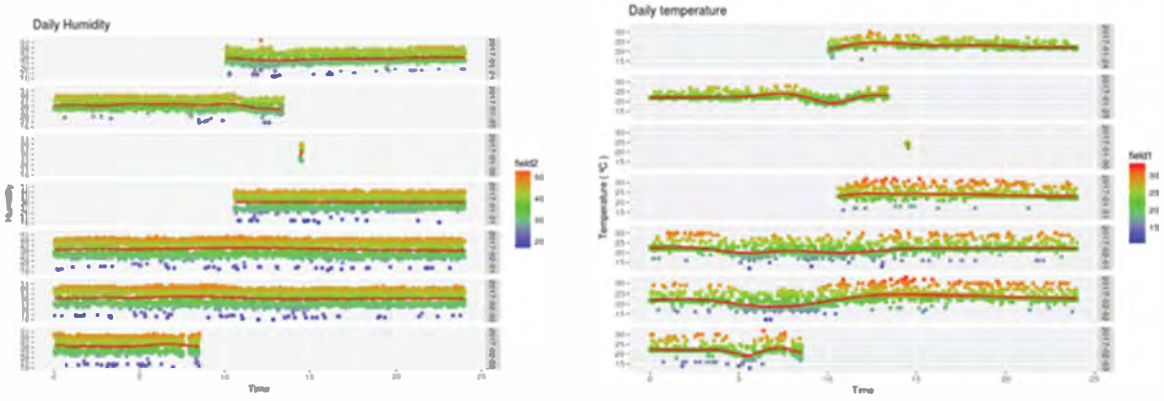
IoT analytics can detect anomalies and protect us from critical situations. Surveillance using video analytics can be used for preventing crimes and accidents.

As indicated above, IOT systems need to adopt a hybrid approach performing Edge analytics and Cloud analytics based on current use cases. Further, they need to drive capabilities to support evolving features and future needs.

Our Applications

SMART LAB through IoT enabled Humidity and Temperature Monioring & Control

- Takes the temperature and humidity data and plots it for various time frames across days
- Classifies the temperature/humidity into high, medium and low and plots the same
- Monitor the temperature and humidity of the lab such that it does not exceed a certain temperature/humidity range



The IoT and Analytics integrated Solution on Humidity and temperature monitoring and control helped the lab assistant to understand the drifting patterns and take corrective actions such as planning the expansion of Lab with devices that are sensitive to Humidity and Temperature changes.

Conclusion

The potential for value creation is recognized broadly and IoT analytics will increasingly be critical to capturing this value. We have an expertise team for developing leading-edge capabilities in IoT analytics, either by building these in-house, acquiring them, or partnering with analytics services providers. IoT Analytics are the keys to success in IoT.