Your Easy Button for
Scaling Azure IoT at the Edge

ZEDEDA   BOBST   Microsoft Azure

Overview

The complexity of the edge landscape, with a diverse mix of hardware and software, combined with challenges like security, time constraints, and available skill sets prevents many IoT projects from scaling effectively.

Together, ZEDEDA and Microsoft are making it easier for organizations like BOBST to address the challenges they face at the edge as they scale their Azure IoT projects.

Unique Challenges of the Edge

By 2025
30%
Workloads at the Edge

Gartner.

By 2022
75%
Data Processed at the Edge

As organizations turn to digital transformation to maintain their competitive advantage, edge computing is a critical piece of the strategy and a key driver of the success of those transformation efforts. According to Gartner, within the next five years edge computing will be part of every organization's infrastructure. In fact, they report that 35% of the top performing companies have either already implemented edge computing or will have done so in the next twelve months. And in order to successfully deploy edge computing, organizations must address challenges driven by a complex landscape and unprecedented scale.

According to another report from Gartner, while 91% of today's data is created and processed inside centralized data centers, by 2022 about 75% of data will need analysis and action at the edge. In Seagate's DataAge 2025 study, in only a few years, almost 20 percent of data created will be real-time in nature, being acted upon at the edge rather than being sent to the core of the network for processing.

The ultimate value of this data creates opportunities for new revenue streams, better optimization, new customer experiences, and more. But the amount of new data requires more processing at the edge, closer to the source, and the technologies used to process this data in the data center no longer are sufficient. Legacy orchestration solutions designed for centralized, physically-secure data centers were not built to address the diversity, scale, security, and autonomous operation needed for distributed edge computing. Plus, many organizations have already heavily invested in legacy infrastructure and software investments to support the field and can't always jump into greenfield deployments.

Additionally, the unique needs and skill sets of both Operations Technology (OT) and IT resources must be considered, including how quickly they can be re-trained or re-tooled to deliver new, complex solutions.

Edge technologies are crucial in solutions that improve factory yields, monitor power grids remotely, protect workers on oil rigs, optimize retail inventory levels, and more, and for many Azure IoT is a critical piece that brings analytics and other workloads from the cloud to the edge. However, a common pattern is that once an initial pilot is completed, organizations then struggle to deploy these projects into production at scale.

> " *The inherent complexity of the edge landscape, plus the available skills sets in the field, are key challenges that organizations must address.* "
>
> *Jason Shepherd,*
> *VP Ecosystem, ZEDEDA*

Successfully deploying edge solutions in the real world requires solving the challenges of provisioning and securing both hardware and applications and enabling full deployment life cycle management. Only with these challenges addressed can users scale solutions that accelerate the collection and transmission of data to Azure IoT, enabling them to capture value via advanced analytics and machine learning.

Consistency is Key

There are different drivers leading organizations to engage with IoT from the cloud or on the edge. The cloud model is effective for things like remote monitoring and management,

> " *We give you good instruction on how to install IoT Edge ... on one box, but what we don't do is provide great practices on how to do this across a thousand or ten thousand IoT Edge boxes out in the field.* "
>
> *Steve Busby,*
> *Principal Program Manager, Microsoft*

merging remote data from multiple IoT devices, and access to infinite compute and storage power to train machine learning and advanced AI tools. IoT on the edge becomes critical for things such as offline operations, near-time response, pre-processing of data (such as bandwidth intensive video streams), protocol translation, and data privacy. Ultimately, organizations should look to have consistency between cloud and edge, which means that a workload developed for the cloud can run at the edge, and vice versa.

How do we get to this consistency? Organizations must look to re-use skills from the cloud at the edge. This includes things like using the same APIs, the same development languages, and the same tools.
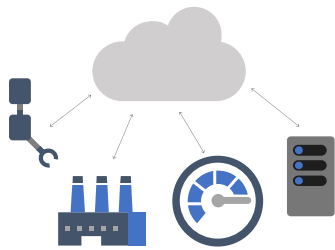
IoT in the Cloud

- Remote monitoring and management
- Merging remote data from multiple IoT devices
- Infinite compute and storage to train machine learning and other advanced AI tools
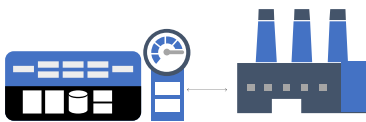
Consistency

IoT on the Edge

- Offline operations
- Privacy of data and protection of IP
- Pre-process data On-Prem, e.g., video streams
- Near real-time response, e.g., low latency control loops
- Protocol translation & data normalization

The Easy Button

ZEDEDA has worked with Microsoft to directly integrate its orchestration solution built on an open foundation for distributed edge computing with Azure IoT to address the scaling and security challenges of the complex edge environment. The result is a comprehensive solution that simplifies deployment of Azure IoT Edge in the field and the open foundation maximizes flexibility and choice as business needs evolve.

This integration simplifies deployment and full lifecycle management of Azure IoT solutions at the edge with choice of hardware including single-click bulk deployment of the Azure IoT Edge Runtime with Azure DPS integration, Azure IoT Edge

modules, and any additional apps required for a given use case. Key benefits of ZEDEDA's subscription-based cloud solution include Zero Touch provisioning, Zero Touch security, risk-free updates, and a built-in app marketplace.

ZEDEDA's cloud-based dashboard provides IT and OT teams with a bird's-eye view into their entire distributed edge infrastructure, including the status of all computing nodes and applications. With scale and security, developers can instantly deploy all Azure IoT Edge services on large fleets of nodes with a single click and manage the full life cycle of both the software and hardware.
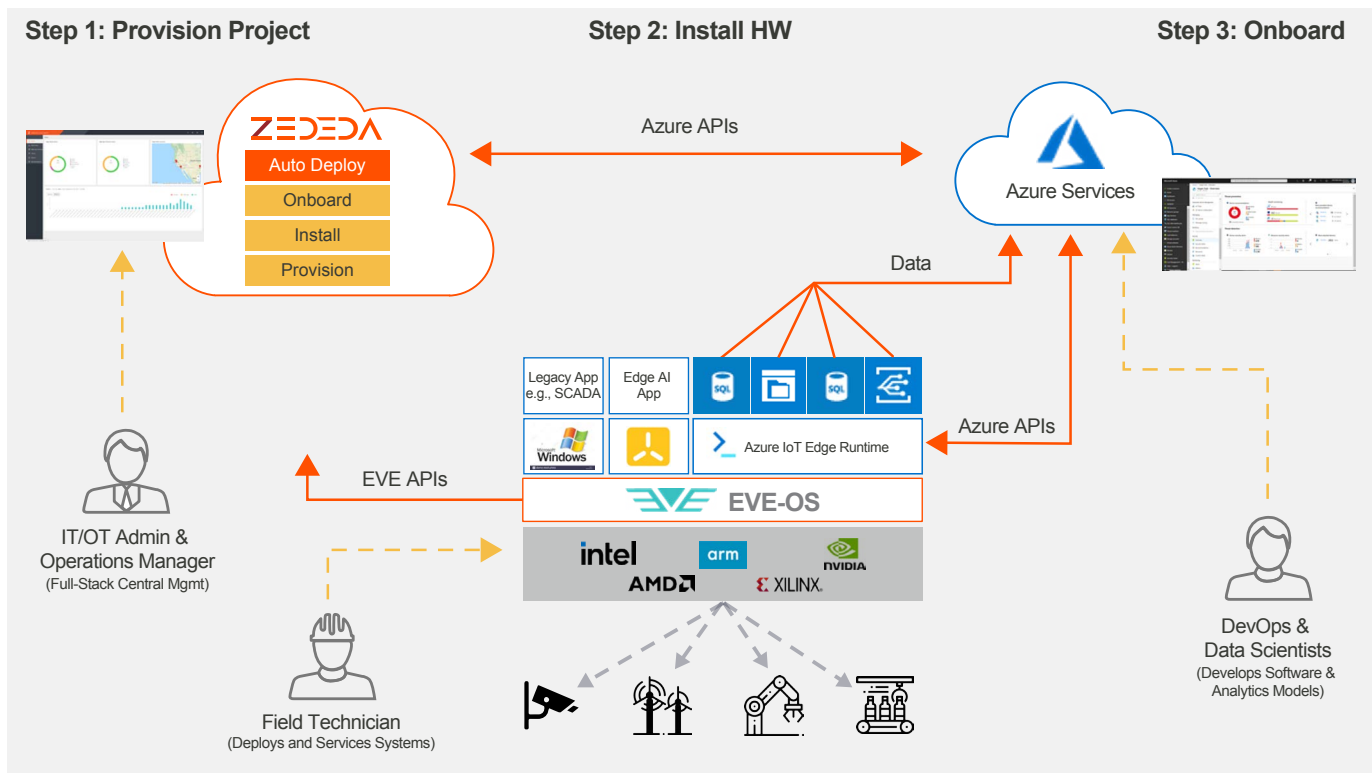
ZEDEDA's integration with Azure IoT enables any use case in any vertical, spanning Manufacturing, Utilities, Renewable Energy, Oil and Gas, Retail and Healthcare and beyond. The combination of Azure IoT with ZEDEDA's leading distributed edge orchestration solution enables developers to activate functions such as data ingestion, AI/ML, networking and security so they can instantly unlock the value of edge data to make real-time

decisions, maximize operational efficiency and drive new business outcomes, and all while providing complete flexibility as needs grow over time.

Now with ZEDEDA's Azure IoT solution, the tens of thousands of developers who count on the platform's powerful data management and analytics capabilities have an easy-to-use solution for operationalizing their distributed edge computing deployments securely at scale.

Reinventing Factory Automation

BOBST

BOBST, one of the world's leading suppliers of equipment and services to packing and label manufacturers with operations in 50 countries, sought to create a data-driven production line, sharing data machine-to-machine and person-to-person, enabling all stakeholders, from brand owners to packers to retailers and more, to maximize the consumer experience in a sustainable way.

By connecting all of the machines, BOBST envisioned building a system that could visualize the entire production line, controlling and making decisions on its own. Implementing this vision though was complex, and relied on connected, digitized and automated presses. By bringing its customers a digital and automated workflow, BOBST could deliver quality, efficiency, costs, and control points, ultimately for a more sustainable production environment.

In order to realize this vision, BOBST had to solve a number of challenges. They had already started using Azure IoT and had some edge devices already deployed in the field. But with an important roll out date on the horizon, they needed to find a solution to manage software updates and configuration changes. They also needed a solution that automated processes like maintaining the OS versions and applying security patches to devices in the field.

ZEDEDA edge orchestration for Azure IoT enables customers like BOBST to more efficiently deploy, secure, manage, and maintain their factory assets. With ZEDEDA, BOBST now has full stack configuration and monitoring of their devices. BOBST was able to accelerate product readiness by six months, expand the number of machines they could instrument and manage, and are now embedding the ZEDEDA solution in all of the machines they manufacture.

Outcomes and Benefits of the BOBST + ZEDEDA + Microsoft Azure IoT

Speed
Accelerated product readiness in the area of device management by six months, with a prototype in days

Scope
Expanded the number of machines the company could instrument and manage, including value-added services

Efficiency
ZEDEDA's orchestration solution is now being embedded in all machines manufactured by BOBST

Scale
From the working prototype BOBST created their own device images using ZEDEDA tools

> " *When we were at about 10 [devices] it was already getting really hard to manage the devices...There is a lot of complexity in managing your physical devices and the OS that runs on them.*
>
> *When you have enough devices that updates take more than one hour, it's important to have a tool like ZEDEDA.* "
>
> *Luciano Torres,*
> *IoT Platform Product Owner, BOBST*

Making Edge Computing Effortless

Run legacy apps alongside modern apps

Deploy and manage without expertise in the field

Eliminate security vulnerabilities

Scale edge deployments with no limits

Maximize uptime with risk free updates

Future-proof with no vendor lock-in

Any edge hardware, app and cloud

Contact us at **sales@zededa.com** to learn more about this webinar brief and how we can help you with your digital transformation.

ZEDEDA