

Smarter
technology
for all

Lenovo

Certified Solution Partners

Microsoft –Rapidly process and act on data at the edge

Lenovo ThinkCentre Nano IoT Gateway

Rapidly process and act on data at the edge

Introduction



Microsoft

Lenovo

Organizations are adopting IoT as part of a broader culture change to optimize their productivity and secure their environment. Due to its immense breadth of benefits, 90% of IoT decision-makers believe IoT is critical to their company's continued success.

Microsoft and Lenovo collaboratively developed an edge-to-cloud solution that leverages the power of Azure IoT services deployed on the M90n-1 for edge-to-cloud data collection, advanced analysis & visualization.

Azure IoT is a collection of managed and platform services across edge and cloud that connect, monitor, and control billions of IoT assets. It also includes security and operating systems for devices and equipment, along with data and analytics that help business to build, deploy, and manage IoT applications.

Powered by the latest generation Intel® WHL-U mobile processors, the Lenovo ThinkCentre M90n-1 Nano IoT Gateway delivers powerful performance in an ultra-portable form factor (0.55L). Featuring an innovative, fan-less design, the M90n-1 guarantees a quieter work environment, and dissipates heat more efficiently, achieving peak performance without interruptions.

Challenges



Leverage Azure IoT Edge to process the data locally and send only what's needed to the cloud for further analysis – thereby reducing cost.

Having the lowest latency possible between the data and the decision is critical. By moving certain workloads to the edge of the network, the ThinkCentre M90n-1 spends less time communicating with the cloud, reacts more quickly to local changes, and operates reliably even in extended offline periods with Azure IoT Edge.

Solution



Deploy your cloud workloads – artificial intelligence, Azure and third-party services, or your own business logic – to run on the ThinkCentre M90n-1 via standard containers.

The Azure Certified Device program gives certified IoT devices the differentiated ability to stand out from the crowd by making them solution ready

The Lenovo ThinkCentre M90n-1 Nano IoT Gateway is **Edge Managed** - an incremental certification beyond the baseline **Azure Certified Device** certification which focuses on Edge runtime compatibility for module deployment and management.

Features/Results



Simplified edge-to-cloud data collection and device governance. The ThinkCentre M90n-1 Nano IoT supports WiFi, Bluetooth®, and 4G/LTE WWAN wireless connections for efficient data collection, delivery and governance of edge devices. Data can be processed at the edge for rapid anomaly discovery and automated responses, leading to reduced failures and downtime

- Certified IoT Edge hardware – **Edge Managed**
- Cloud Interface: Remotely manage and deploy workloads from the cloud through Azure IoT Hub with zero-touch device provisioning
- IoT Edge Runtime: Manages the modules for more control and code flexibility
- Security manager with support for hardware-based root of trust
- Offload AI and analytics workloads to the edge
- Simplify development
- Respond in near-real time.
- Operate offline or with intermittent connectivity

Lenovo EPC300

Rapidly process and act on data at the edge

Introduction



Microsoft

Lenovo

Organizations are adopting IoT as part of a broader culture change to optimize their productivity and secure their environment. Due to its immense breadth of benefits, 90% of IoT decision-makers believe IoT is critical to their company's continued success.

Microsoft and Lenovo collaboratively developed an edge-to-cloud solution that leverages the power of Azure IoT services deployed on the EPC300 for edge data collection, advanced analysis & visualization.

Azure IoT is a collection of managed and platform services across edge and cloud that connect, monitor, and control billions of IoT assets. It also includes security and operating systems for devices and equipment, along with data and analytics that help business to build, deploy, and manage IoT applications.

Powered by the latest generation Intel® WHL-U mobile processors, and featuring an innovative, fan-less design, the Lenovo EPC300 Gateway guarantees a quieter work environment, and dissipates heat more efficiently, achieving peak performance without interruptions.

Challenges



Leverage Azure IoT Edge to process the data locally and send only what's needed to the cloud for further analysis – thereby reducing cost.

Having the lowest latency possible between the data and the decision is critical. By moving certain workloads to the edge of the network, the Lenovo EPC300 Gateway spends less time communicating with the cloud, reacts more quickly to local changes, and operates reliably even in extended offline periods with Azure IoT Edge.

Solution



Deploy your cloud workloads – artificial intelligence, Azure and third-party services, or your own business logic – to run on the EPC300 via standard containers.

The Azure Certified Device program gives certified IoT devices the differentiated ability to stand out from the crowd by making them solution ready.

The Lenovo EPC300 Gateway is **Edge Managed** - an incremental certification beyond the baseline **Azure Certified Device** certification, which focuses on Edge runtime compatibility for module deployment and management

Features/Results



Simplified edge-to-cloud data collection and device governance. The Lenovo EPC300 Gateway supports WiFi, Bluetooth®, and 4G/LTE WWAN wireless connections for efficient data collection, delivery and governance of edge devices. Data can be processed at the edge for rapid anomaly discovery and automated responses, leading to reduced failures and downtime

- Certified IoT Edge hardware – **Edge Managed**
- Cloud Interface: Remotely manage and deploy workloads from the cloud through Azure IoT Hub with zero-touch device provisioning
- IoT Edge Runtime: Manages the modules for more control and code flexibility
- Security manager with support for hardware-based root of trust
- Offload AI and analytics workloads to the edge
- Simplify development
- Respond in near-real time.
- Operate offline or with intermittent connectivity

Lenovo Think System SE350

Rapidly process and act on data at the edge

Introduction



Microsoft

Lenovo

Organizations are adopting IoT as part of a broader culture change to optimize their productivity and secure their environment. Due to its immense breadth of benefits, 90% of IoT decision-makers believe IoT is critical to their company's continued success.

Microsoft and Lenovo collaboratively developed an edge-to-cloud solution that leverages the power of Azure IoT services deployed on the Lenovo ThinkSystem SE350 for data collection, advanced analysis, visualization & edge AI inferencing.

Azure IoT is a collection of managed and platform services across edge and cloud that connect, monitor, and control billions of IoT assets. It also includes security and operating systems for devices and equipment, along with data and analytics that help business to build, deploy, and manage IoT applications.

The ThinkSystem SE350 Edge Server is a purpose-built edge system specifically designed to meet the compute and storage requirements of the Edge. Powered by Intel® Xeon D cores with up to 256GB memory, this innovative form factor features a flexible rugged design that handles heat, dust, and vibration - bringing compute wherever it's needed.

Challenges



Leverage Azure IoT Edge to process the data locally and send only what's needed to the cloud for further analysis – thereby reducing cost.

Having the lowest latency possible between the data and the decision is critical. By moving certain workloads to the edge of the network, the Lenovo ThinkSystem SE350 spend less time communicating with the cloud, reacts more quickly to local changes, and operates reliably even in extended offline periods with Azure IoT Edge.

Solution



Deploy your cloud workloads – artificial intelligence, Azure and third-party services, or your own business logic – to run on the SE350 via standard containers.

The Azure Certified Device program gives certified IoT devices the differentiated ability to stand out from the crowd by making them solution ready.

The Lenovo ThinkSystem SE350 is **Edge Managed** - an incremental certification beyond the baseline **Azure Certified Device** certification, which focuses on Edge runtime compatibility for module deployment and management.

Features/Results



The ThinkSystem SE350 supports WiFi and 4G/LTE wireless connections for efficient data collection, delivery and governance of edge devices. It also features up to 18TB SSD for storage when you need it. Data can be processed at the edge for rapid anomaly discovery and automated responses, leading to reduced failures and downtime

- Certified IoT Edge hardware - **Edge Managed**
- Cloud Interface: Remotely manage and deploy workloads from the cloud through Azure IoT Hub with zero-touch device provisioning
- IoT Edge Runtime: Manages the modules for more control and code flexibility
- Security manager with support for hardware-based root of trust
- Offload AI and analytics workloads to the edge
- Simplify development
- Respond in near-real time.
- Operate offline or with intermittent connectivity