Microsoft

Azure Data Box Edge

Edge compute appliance with AI and network transfer functionality

A piece of Azure at your location

As the world digitizes, organizations generate more and more data at the edge. Data comes from cameras, IoT sensors, and industrial automation. Organizations need to analyze, modify, and filter that data locally, where it is generated, then transfer data to the cloud for further processing or storage.

The 1U Data Box Edge, a rackmount appliance, brings together the edge functions you need: compute, preprocessing, machine learning, and data transfer. You can manage one Data Box Edge appliance or an entire fleet from the Azure Portal.

Edge compute. Data Box Edge runs compute containers at the edge to support machine learning algorithms and other local processing. IoT Edge support creates a gateway for IoT devices and messages.

Preprocess data. Preprocess your data locally on Data Box Edge to get results without the latency of the cloud. The storage gateway will transfer the results to the cloud for further processing or storage. By processing your data locally, you can transfer only what you need to the cloud—for example, transfer video clips with motion in them instead of empty streets or hallways. Preprocessing supports a variety of tasks:

- Combine data from multiple sources; consolidate prior to cloud storage.

- Modify data, for example to remove data that for legal or compliance reasons you don't want to store in the cloud.

- Filter data to only transfer the data or images deemed important.

- Analyze and react to IoT Events.

Machine learning at the edge. Data Box Edge includes support for Azure Machine Learning (ML) tools for accelerated deep learning. Get results immediately without needing to upload to the cloud—accelerated locally with an Azure FPGA. Then upload either the full data set or a subset to the cloud to retrain and improve your ML models.

Easy data transfer to Azure. Data Box Edge includes storage gateway support to easily and quickly transfer data to Azure for further compute and analysis, or archival purposes. The storage gateway provides data transport to Azure while retaining local access to your files in the cloud..
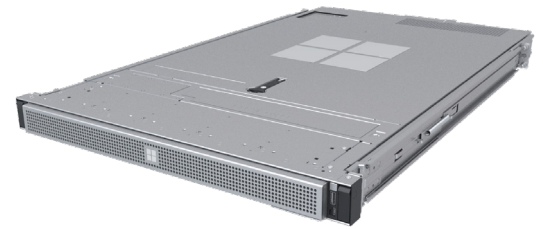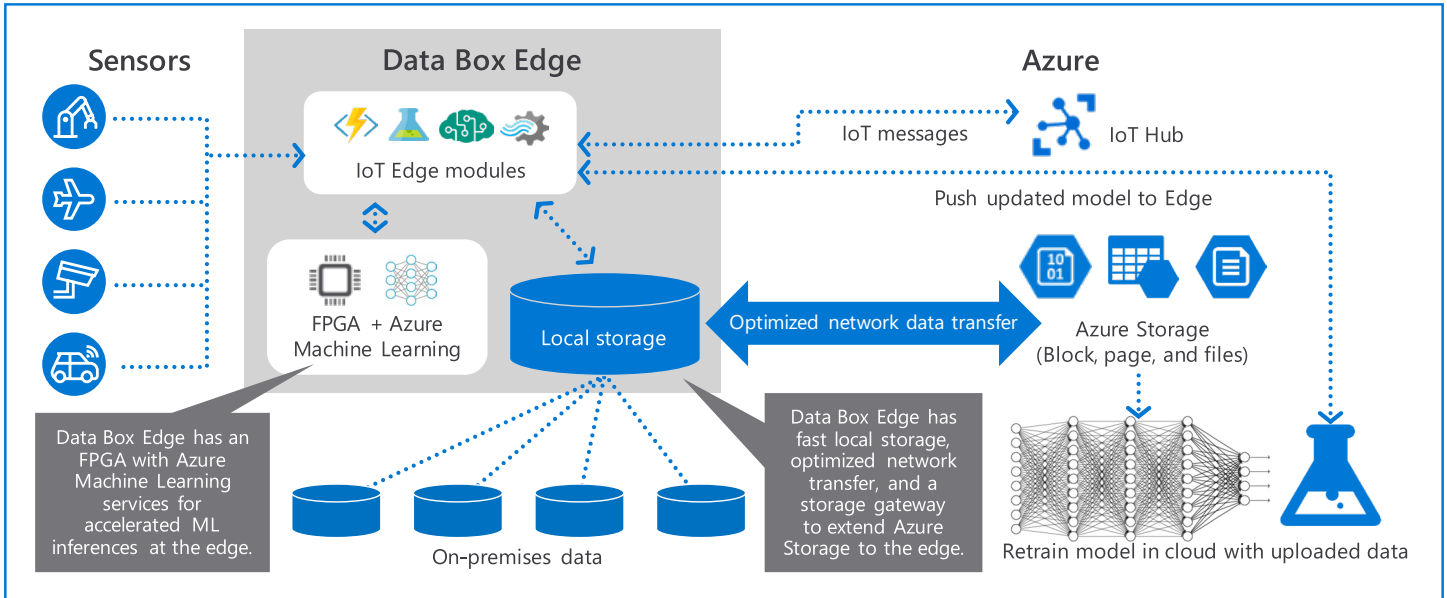
Data Box Edge is a 1U edge compute appliance from Microsoft. Instead of purchasing it, order from Azure and pay as you go as with other Azure services.

Trusted cloud services

Startups, governments, and 90 percent of Fortune 500 businesses run on Azure. Microsoft leads the industry in establishing clear security and privacy requirements and then consistently meeting these requirements.

How Data Box Edge facilitates data transfer to Azure

Data Box Edge combines IoT Edge, a cloud storage gateway, and an FPGA for accelerated ML in an edge compute appliance

Why use Data Box Edge

Data Box Edge is a fast, simple, and secure solution. It is simple to order and use, with high-speed connectivity to efficiently transfer data to the cloud. Easily manage your fleet of Data Box Edge devices from the Azure portal.

Use it to help solve challenges for edge scenarios like these:

Data transfer from the edge for remote storage or processing on Azure: Use to aggregate and immediately transfer data you need to Azure while retaining local access.

Process at the edge: Use Azure Data Box Edge for immediate local preprocessing, then transfer the data you need to Azure.

Local edge compute: Use compute containers on the edge to analyze, filter and transform data where it is generated.

Machine learning at the edge prior to storage or processing on Azure: Use Azure Data Box Edge to run machine learning at the edge to get valuable insights about your data, accelerated by an on-board FPGA powered by Azure Machine Learning. Then upload for model training in the cloud.

Technical specifications

Specification	Details
CPU	2x10 core Intel Xeon Scalable Processor
Local storage capacity	12 TB local NVMe SSD storage with AES 256-bit Encryption
Gateway	4x25 GbE network interfaces
File formats	SMB or NFS locally on the device and transferred to Azure Blob or Files
Memory	128 GB RAM
Machine learning	Intel Arria 10 FPGA powered by Azure Machine Learning
Size	1.75 in. H x 27.25 in. D x 17.25 in. W 4.445 cm H x 69.215 cm D x 43.815 cm W
Power	110/240 V (50/60 Hz)

To order Data Box Edge or learn more

The Data Box Edge is available today.

To order Data Box Edge or to learn more about other products in the Data Box family, visit:
http://azure.com/DataBox.

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