

# Microsoft Azure

### Features

- Launch Windows Server and Linux virtual machines in minutes
- App Service and Web Apps create and deploy solutions that scale with your business
- Reliable, economical cloud storage for data
- Azure IoT Hub connects, monitors, and controls millions of IoT assets
- Stream Analytics provides real-time stream processing in the cloud
- Powerful, cloud-based Machine Learning builds and deploys predictive analytic solutions

### Introduction

Advantech is partnering with Microsoft® Azure as the IaaS and also PaaS solution provider through the Microsoft CSP (Cloud Solution Provider) Program in order to offer diverse functions for IoT applications. Through the CSP program, Advantech provides total solutions, from devices to cloud services. Advantech and Microsoft Azure help customers build new-generation products and services for the IoT era.

Microsoft Azure is a growing collection of integrated cloud services that allows you to quickly deploy infrastructures and services to meet all of your business needs. Azure's pay-as-you-go services can quickly scale up or down to match demand, so you only pay for what you use. The predictive analytics services, including Machine Learning, Cortana Analytics and Stream Analytics, are redefining business intelligence. Make smarter decisions, improve customer service, and uncover new business possibilities from your structured, unstructured, and streaming IoT data.

### Feature Details

#### Virtual Machines

A standalone virtual machine is a simple solution for a small application that does not require high availability. By using the Virtual Machine and Virtual Network services, an application can be deployed to a Windows machine, a Linux machine, or start quickly from one of hundreds of images available through the Azure Marketplace. A Virtual Machine can be scaled up from a single core VM with 1.75GB of RAM to a 32 core VM using the latest processors and 448GB of RAM. Common, single-machine workloads include a web server, a database server or dev/test environments.

Many applications need to integrate with data sources from an on-premises system or authenticate to an Active Directory running in your local datacenter. These applications can connect to on-premises data through a Virtual Network with a Virtual Gateway, securing the connection using a VPN over the internet. Or for higher performance the virtual network can be connected to the ExpressRoute service, which offers extremely fast, dedicated lines using dozens of telco providers.

#### App Service and Web Apps

App Service is a fully Managed Platform for professional developers that brings a rich set of capabilities to web, mobile, and integration scenarios. Quickly create and deploy mission-critical web apps that scale with your business by using Azure App Service. Leverage the power of App Service Web Apps using the languages and frameworks you know and depend on, deploy your applications quickly to the Azure Cloud and continuously improve your code without ever having to worry about infrastructure again.

Modern enterprises interact with their customers in ever more sophisticated ways. Companies of all types regard their corporate Web presence as a critical part of their businesses, a major component in their business plans. To accommodate this importance, enterprises are looking for a platform that will provide them with agility, security and scalability. Furthermore, they require the capability to link to their existing business systems, and the ability to quickly deploy new code and spin up instances across the globe. With Azure App Service and Web Apps, organizations serve their customers both quickly and cost-effectively.

#### Azure Storage

Azure Storage provides the flexibility and hyper-scale needed to store and retrieve large amounts of data. Use Azure Blob Storage (Object Storage) to store unstructured data, such as documents and media files. Use Azure Table Storage for structured NoSQL data. Use Azure Queue Storage to reliably store messages. And use SMB-based Azure File Storage for existing or new applications—no code changes are required.

Storage keeps up with your growing data needs, with up to 500 TB of total storage per account. A single subscription supports up to 50 storage accounts, delivering petabytes of storage for the largest scenarios. Whether you're building a consumer site or a terabyte-scale big data application, Azure handles it.

Pay only for what you use, at a lower cost than on-premises storage options. Our competitive price-matching policy also means that you're always getting a great deal on cloud storage.

#### Azure IoT Hub

Rely on Microsoft Azure IoT Hub to connect your IoT assets easily and securely. Device-to-cloud telemetry data keeps you up to date on the states of all your assets, and alerts you when a device needs your attention. Cloud-to-device messages can contain commands and notifications to your connected devices—and track message delivery with acknowledgement receipts. Device messages are sent in a durable way that accommodates intermittently connected devices.

Azure IoT Hub uses open-source device SDKs for multiple platforms, including Linux, Windows, and real-time operating systems. It uses standard and custom protocols, including HTTP, Advanced Message Queuing Protocol (AMQP), and MQ Telemetry Transport (MQTT).

Azure IoT Hub also sets up individual identities and credentials for each of your connected devices—and helps maintain the confidentiality of both cloud-to-device and device-to-cloud messages. You can selectively revoke access rights for specific devices as needed to maintain the integrity of your system.

### Stream Analytics

Azure Stream Analytics lets you rapidly develop and deploy low-cost solutions to gain real-time insights from devices, sensors, infrastructure, and applications. Use it for IoT scenarios such as real-time remote management and monitoring or gaining insights from devices like mobile phones and connected vehicles. Azure Stream Analytics reduce friction and complexity and use fewer lines of code when developing analytic functions for scale-out distributed systems. Describe the desired transformation with SQL-based syntax, and Stream Analytics automatically distributes it for scaling, performance, and resiliency. No need to manage complex infrastructure and software.

And you can scale to any volume of data while still achieving high throughput, low-latency, and guaranteed resiliency. Azure Stream Analytics delivers all of this without incurring hardware or other up-front costs, and without time-consuming installation or setup. Azure does it all for you. Get up and running in minutes. Stream Analytics processes data at a high throughput with predictable results and no data loss.

### Machine Learning

Azure Machine Learning is a powerful, cloud-based predictive analytics service that makes it possible to quickly create and deploy predictive models as analytics solutions. Azure Machine Learning not only provides tools to model predictive analytics, but also provides a fully-managed service you can use to deploy your predictive models as ready-to-consume web services. Azure Machine Learning provides tools for creating complete predictive analytics solutions in the cloud; it lets you quickly create, test, operationalize, and manage predictive models. You do not need to buy any hardware or manually manage virtual machines.

You can leverage the large library of Machine Learning algorithms and modules in Machine Learning Studio to jump start your predictive models. Choose from a library of sample experiments, R and Python packages, and best-in-class algorithms from Microsoft businesses. Extend Studio modules with your own custom R and Python scripts. In Cortana Analytics Gallery you can try analytics solutions authored by others or contribute your own, using Azure services including Machine Learning, HDInsight (Hadoop), Stream Analytics, as well as Azure big data stores and data management services.

## Ordering information

### Monthly Billing\*

- **9806AZURE0** Advantech Azure Service

\* No upfront costs. No termination fees. Pay just for what you use each month. You may cancel your subscription at any time, and pay off any outstanding fees. Please contact your Advantech representative for further information.