

What is Azure Sphere?

8 minutes

Azure Sphere is a secured, high-level application platform with built-in communication and security features for internet-connected devices. The Azure Sphere platform comprises three components:

- A secured, connected, crossover microcontroller unit (MCU)
- A custom high-level Linux-based operating system (OS) and
- A cloud-based security service that provides continuous, renewable security.

ⓘ Note

Typically, embedded processing comprises two distinct categories: application processors and MCUs. MCU-based designs are affordable and provide flexible usability. However, many design requirements exceed the constraints of MCUs. These are covered by an applications processor. Crossover processors span these two design goals. They function as applications processor built with an MCU core. They're architected to deliver high performance and functional capabilities of applications processors. However, they also retain the ease-of-use and real-time low-power operation of traditional MCUs.

The Azure Sphere platform provides an ecosystem to develop, deploy, and maintain secure internet connected IoT solutions. Thus, security is the main value proposition for the Azure Sphere. Based on the foundations of Security, the Azure Sphere platform provides other benefits that include:

- The ability to securely and remotely **maintain connected IoT devices** in the field
- **Protection from different kinds of security risks** such as spoofing, rogue software, or denial of service attacks
- **The ability to receive software updates automatically** to overcome latest security threats. Software updates can be automatically deployed from the cloud to any connected device. These updates could fix problems, provide new functionality or counter emerging methods of attack
- **Improved productivity** of support personnel through automated provision of software updates

- The ability to **acquire product usage data** from the field that can help in diagnosing problems and designing new products
 - **Overall benefits** to the value chain including customer satisfaction, product support and future development.
 - **Support for legacy IoT devices** through Guardian modules
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Next unit: How Azure Sphere works

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