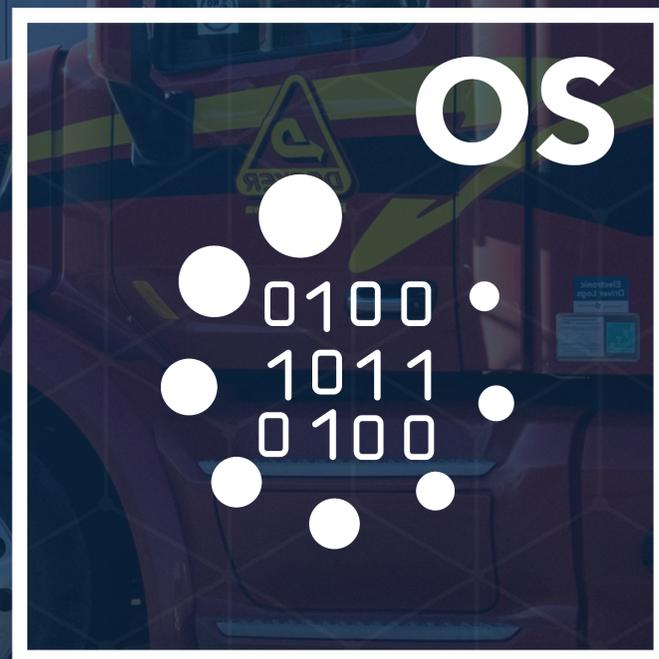


HOW DEVICE OS POWERS YOUR IOT PRODUCT

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How Device OS Powers Your IoT Product

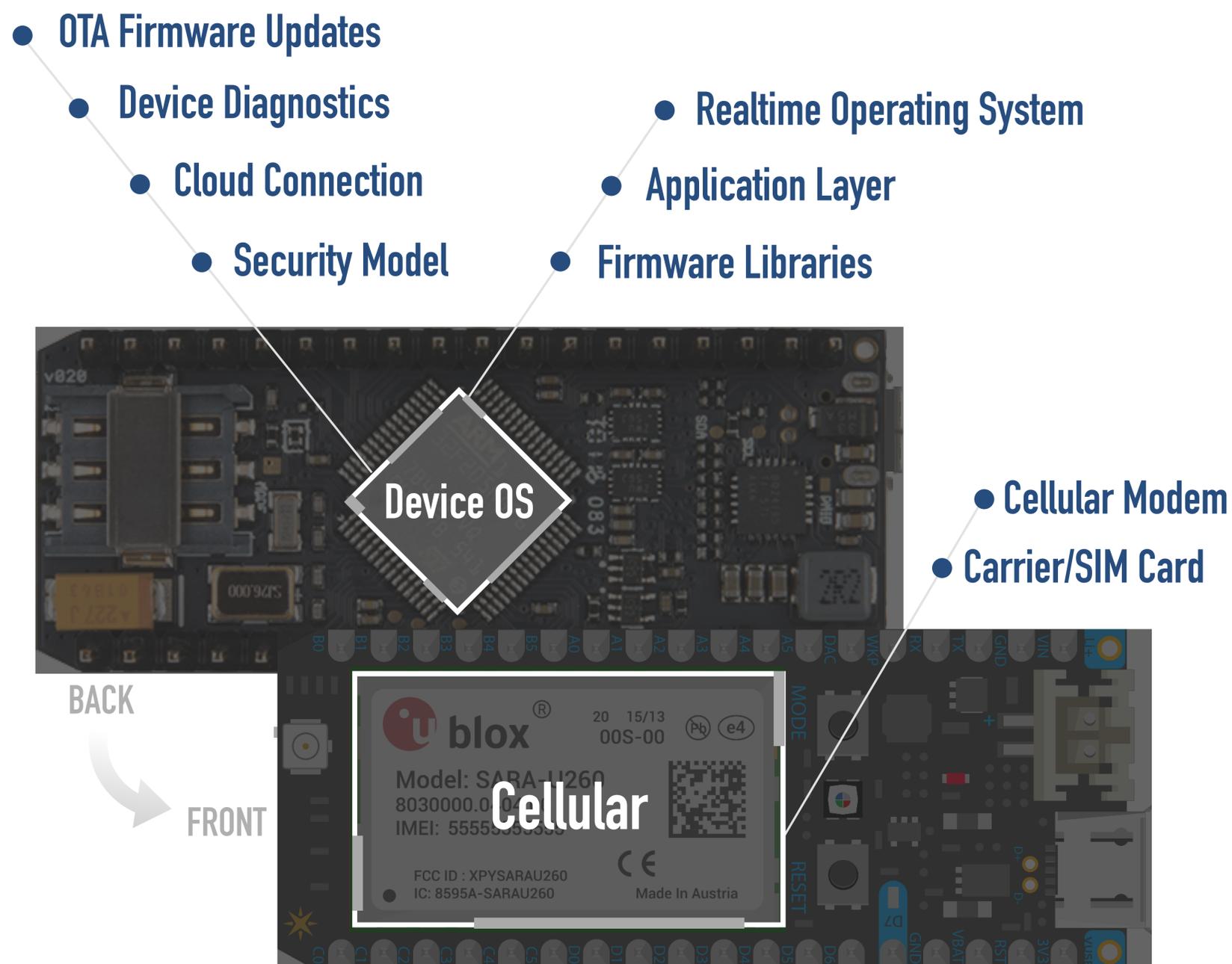
Device OS is a true integrated solution

At Particle, we commonly differentiate ourselves from other IoT solutions by saying we are “fully-integrated.” This means that we handle all the complexity of IoT for you, so that you can focus on your core product, not IoT infrastructure. Say “Hello World” to Device OS.

Device OS is a powerful operating system that runs on all Particle devices – handling all firmware, hardware, and network connectivity.

Components of a connected device

If you made a list of the different functional components that are included in Device OS, the list would look like this:



How Device OS Powers Your IoT Product

Components of a connected device (continued)

Each one of the functional pieces described above require some subset of code so your IoT device can have all these valuable features:



OTA Firmware Updates

Update the code on your device remotely and reliably



Security Model

Verifies device identity and protects the fleet



Firmware Library

Easily plug together common hardware and network actions



Remote Diagnostics

Real-time vitals on your remote device's health



FreeRTOS

Industry standard multitasking and timer management



Wireless Modem

Enables the device to connect to the Internet



Cloud Connection

Enables the device to communicate with the cloud



Application Layer

The layer where you write the code for your use case

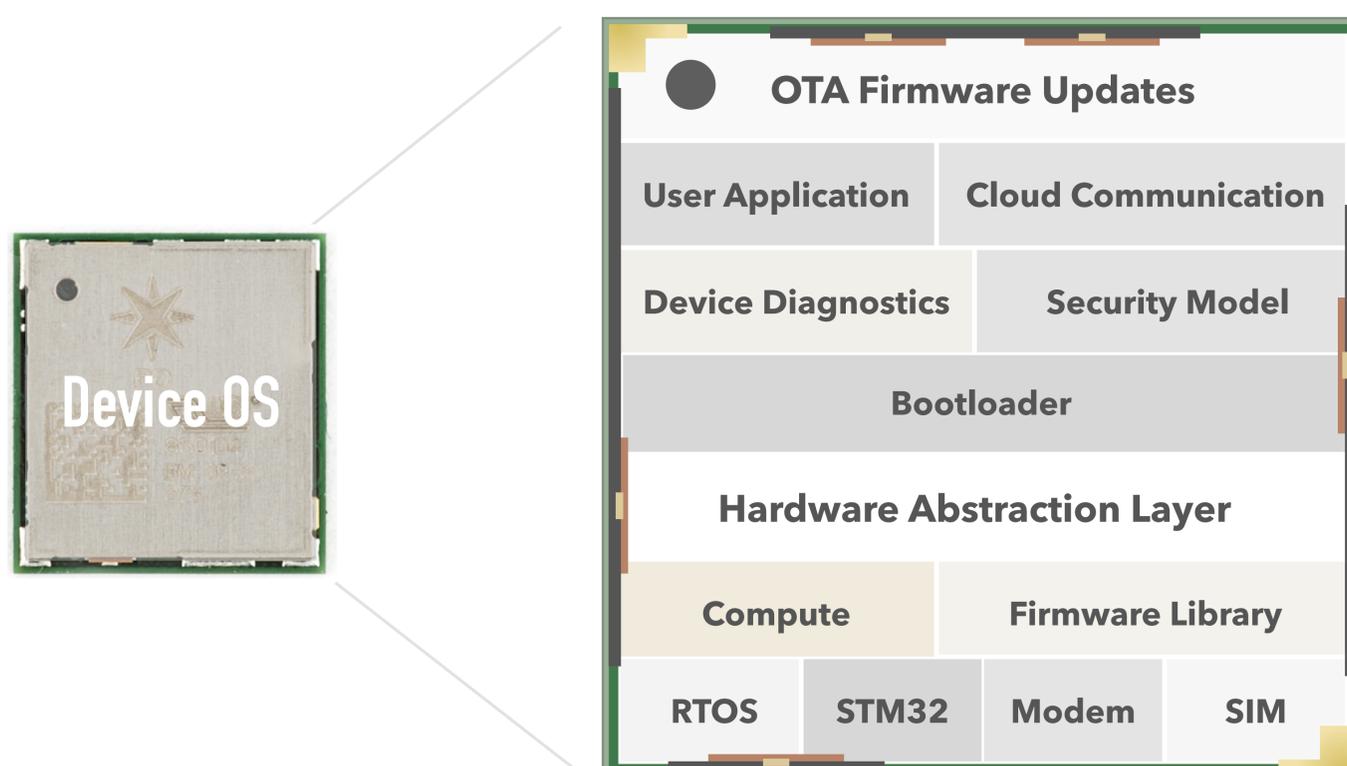


Carrier/SIM Card

Allows the device to connect over cellular

Device OS abstracts the complex integration work

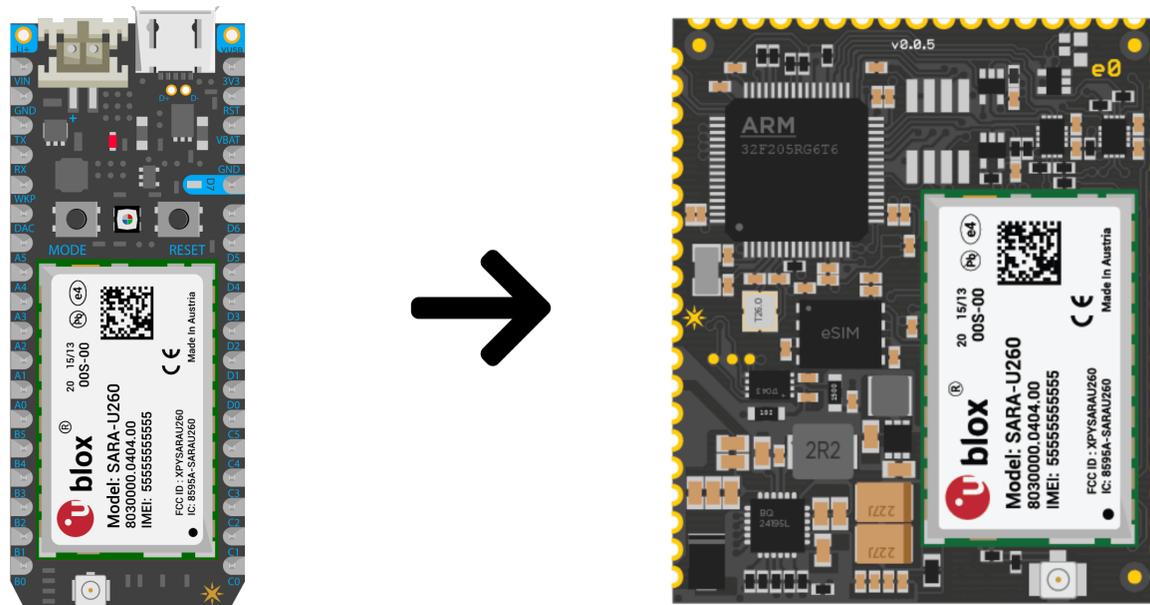
According to a Cisco survey (2017), over 60% of respondents underestimated the complexities of managing their own IoT initiatives. What makes these IoT initiatives so complex? Well, when it comes to building your own IoT product, you must construct a hardware and firmware ecosystem that is exponentially more complex than a standard web application. The Particle Team has built **Device OS** so you can ignore this complex hardware and firmware integration and focus on your product.



How Device OS Powers Your IoT Product

The Fallacy of “Hardware Agnosticism”

Many IoT solutions will market themselves as “Hardware Agnostic” as if to say, “we work with all hardware!” This really means they’ve excluded hardware from the scope of their solution, and have left the hardware and firmware integration to you. However, managing this intersection of hardware and firmware is often underestimated, but it’s a large reason why 75% of companies that undertake new IoT initiatives fail to deliver them on time. Cisco found that the most successful companies are the ones that work with their IoT partners at every level of integration, not leave the hard work to you.



All Particle hardware runs on **Device OS**, so scaling is as simple as transferring the code from your prototype to your production module.

Device OS is the best IoT operating system in the industry

How do we know that all of this hardware/firmware integration is hard to maintain? We have done this integration work for the past 5 years with Device OS; and you can’t buy it anywhere else. No one else sells this complex integration, because very few companies are willing to tackle an integration problem of this size and this scope. The Particle team has worked tirelessly to manage all of these discrete, constantly evolving pieces so you don’t have to build or maintain it yourself.

To learn more on how Device OS powers your IoT product, visit particle.io