

# Amazon FreeRTOS

## Over-The-Air-update (OTA)

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How can I  
securely connect  
constrained,  
microcontroller-based  
devices?

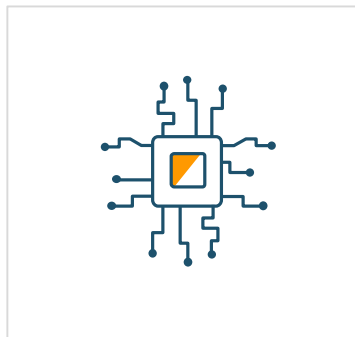




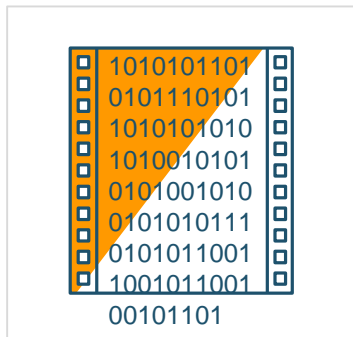
# Amazon FreeRTOS

## IoT Operating System for Microcontrollers

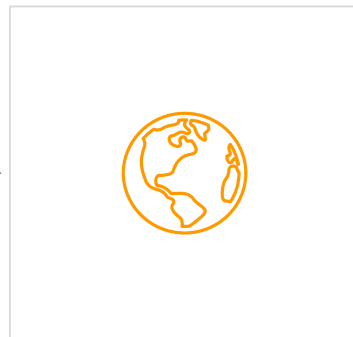
Amazon FreeRTOS, based on the popular FreeRTOS, is a microcontroller operating system that makes small, low powered edge devices easy to program, deploy, secure, connect, and maintain.



Will it work on my chip?



Does it have the functionality I need?



Where do I get it?



How do I start?



# Amazon FreeRTOS

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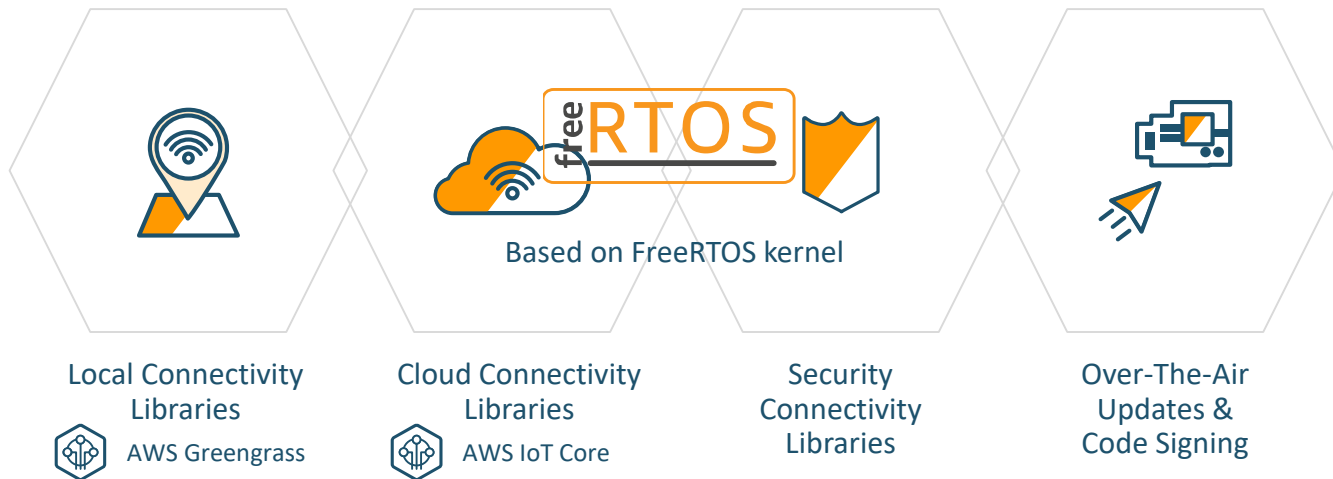
Where do I get it?

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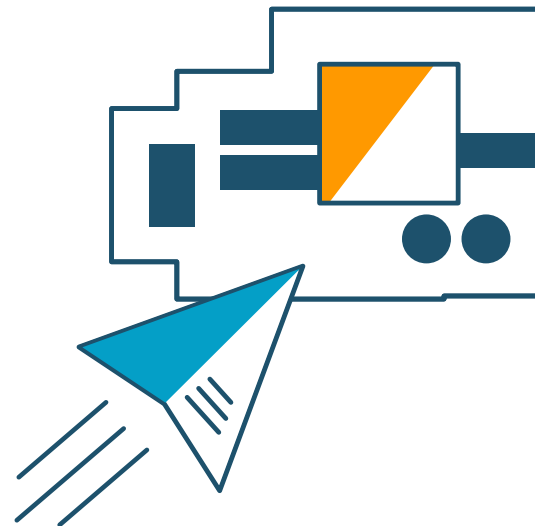
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## IoT Microcontroller OS



# Over-the-Air Firmware Updates

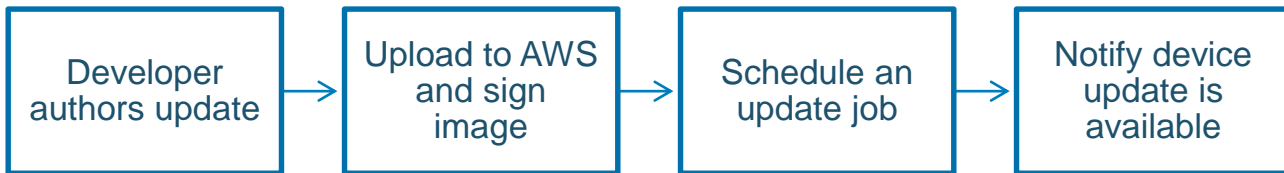
- Use AWS IoT Device Management to assign updates to groups
- Code sign new firmware images
- Stream updates to your device over MQTT
- Validate signature on device
- APIs to control installation and reboot logic
- Simple to manage groups
- Control authorship and ensure devices only run trusted code
- Memory efficient updated client





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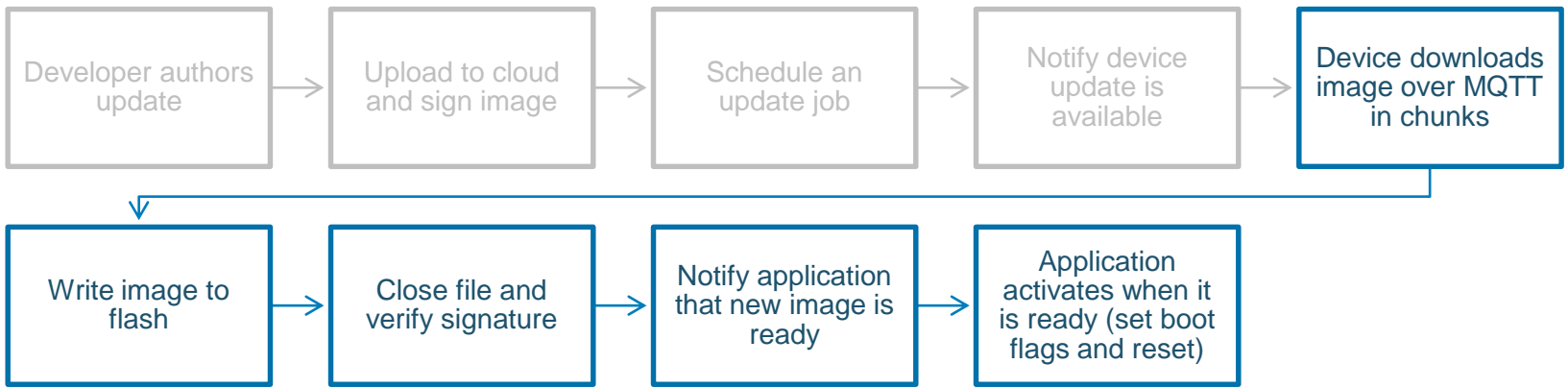
## Over-The-Air Updates – User Actions





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## Over-The-Air Updates – Agent Actions

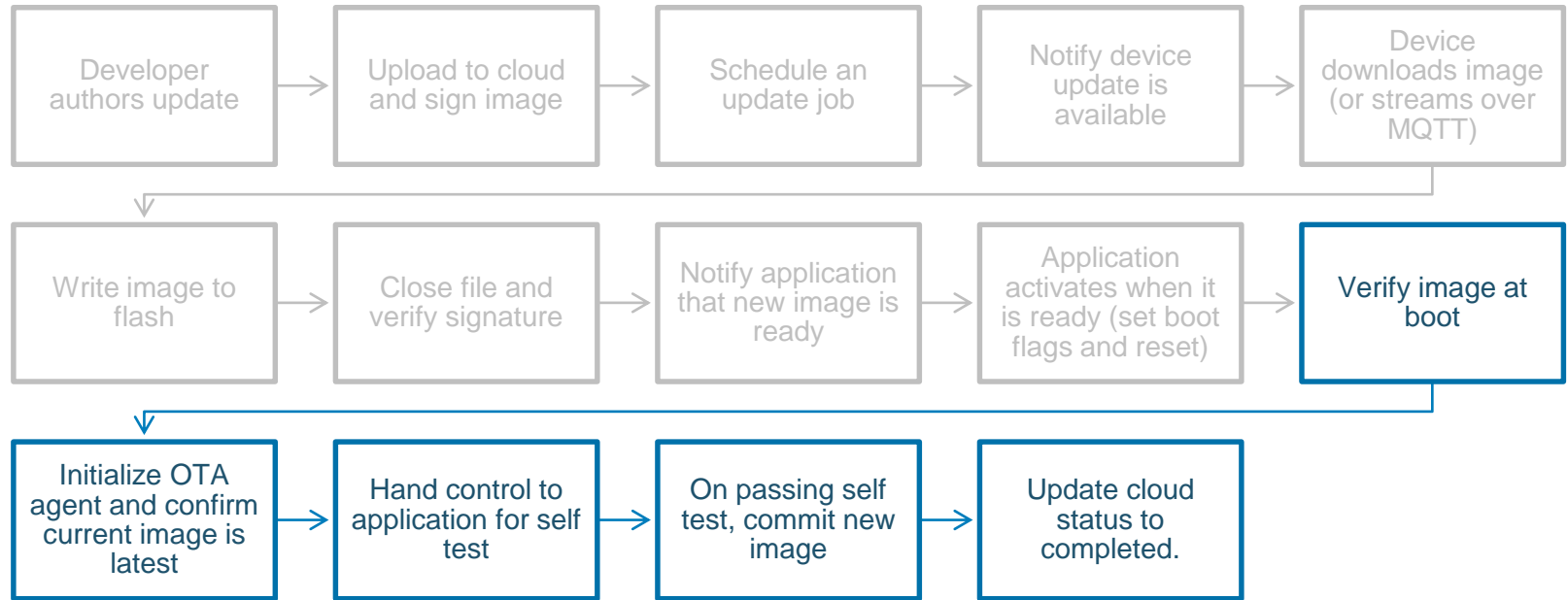






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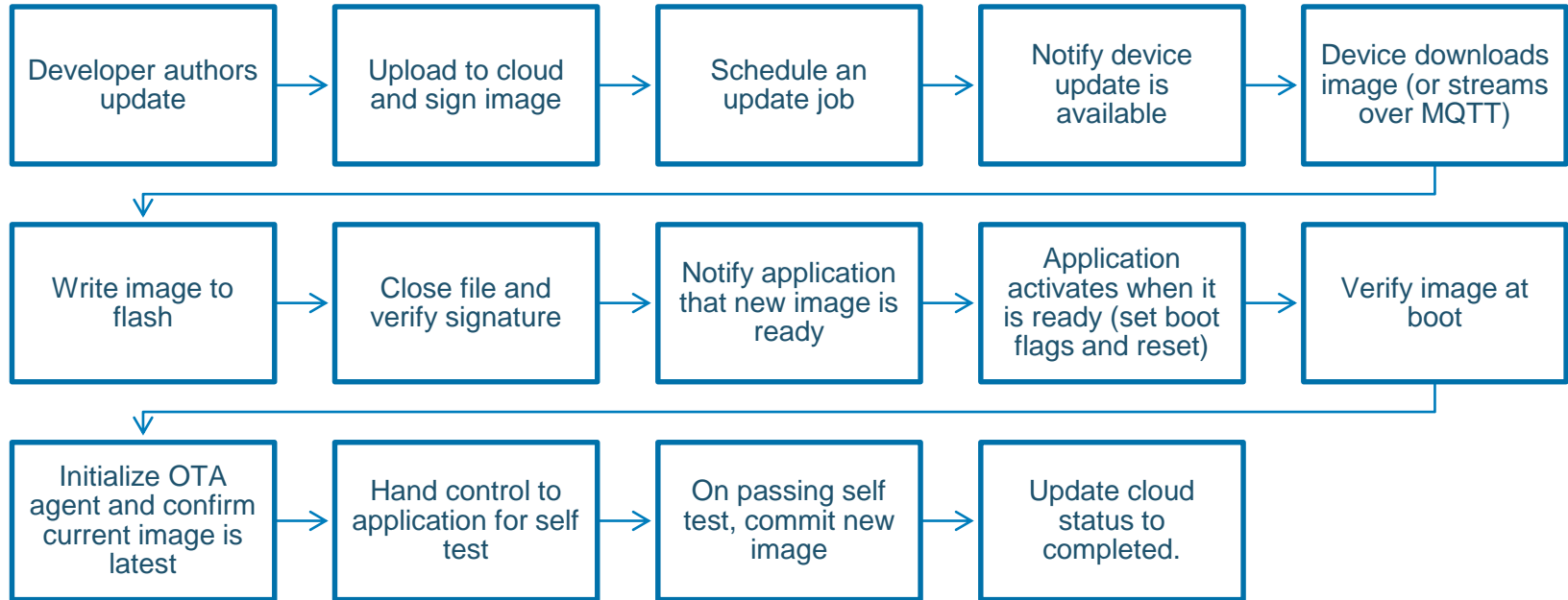
## Over-The-Air Updates – Reboot Actions





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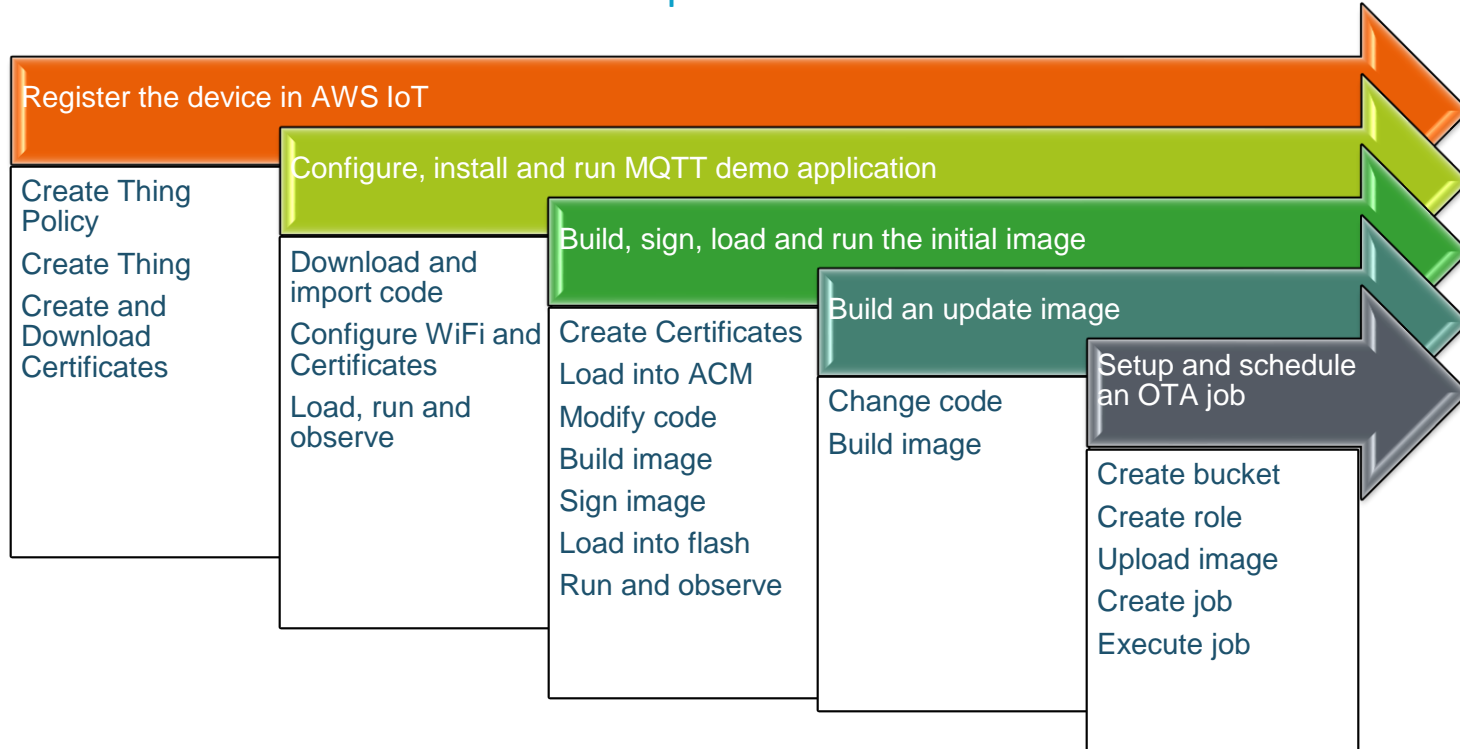
## Over-The-Air Updates – Overview





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## Over-The-Air updates Demonstration

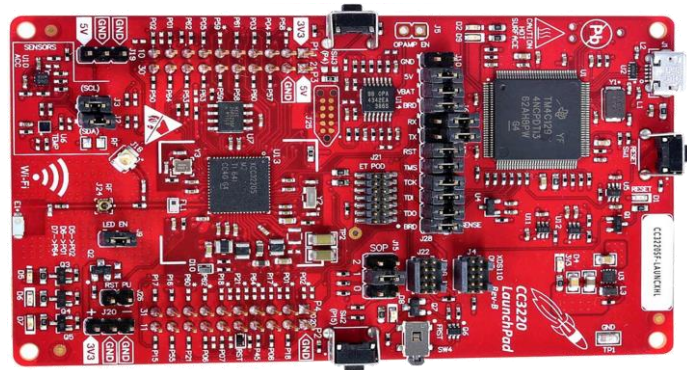




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## Over-The-Air-Updates demonstration

The screenshot shows the AWS IoT console interface. At the top, there is a navigation bar with the AWS logo, 'Services', 'Resource Groups', a search icon, a notification bell, and 'Support'. The main content area has a dark header with the text 'Create an Amazon FreeRTOS OTA update job' and a sub-header 'This Over-the-air (OTA) update job will send your firmware image securely over MQTT to Amazon FreeRTOS-based devices'. A prominent white button with the text 'Create OTA update job' is centered on the page.



# Thank you!

