





**₡**WWDC20

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# Apple Replacing Intel Processors with "Apple Silicon" in Macs

- Two year transition beginning later this year
- New Intel Macs will continue to be released even next year
- Intel Macs will continue to be supported for the foreseeable future
- Most existing Mac Apps will continue to work on Apple Silicon Macs
  - Developers can recompile as Universal 2 Apps containing both Intel and Apple Silicon binaries
  - Rosetta 2 preinstalled on Apple Silicon Macs can run most existing Mac Apps without change
- Microsoft and Adobe have already updated their Office and Creative Cloud Apps to support the new Apple Silicon Macs and Apple has updated all of its Apps including the iWork Suite, Final Cut Pro, and Logic Pro

### What is "Apple Silicon"?

- Same basic processor family used in iPhones, iPads, Apple TV, and Apple Watch
- Custom designed Apple processors tuned to the specific devices for optimized speed and power
- As a result, Apple Silicon Macs can run many iOS and iPadOS Apps without change

#### Some Definitions

- Apple often refers to Apple Silicon as SoCs or a system on a chip which is an integrated circuit (also known as a "chip") that integrates all or most components of a computer.
  These components almost always include a central processing unit (CPU), memory, and input/output ports all on a single substrate or microchip, the size of a coin.
- Apple has custom-designed many such ARM-based chips which have then been manufactured in Asian factories.
- The basic architecture of Apple Silicon is the Advanced RISC Machine, or ARM architecture used by many manufacturers, especially for portable devices requiring lower power consumption and improved heat dissipation.
- RISC, or Reduced Instruction Set Computing, is a computer instruction set that allows a computer's microprocessor to have fewer cycles per instruction than more complex CPUs such as those made by Intel.

# macOS X is no Longer

- macOS X has had a long life
  - \*10.0 Cheetah, 10.1 Puma, 10.2 Jaguar, 10.3 Panther, 10.4 Tiger, 10.5 Leopard, 10.6 Snow Leopard, 10.7 Lion, 10.8 Mountain Lion, 10.9 Mavericks, 10.10 Yosemite, 10.11 El Capitan, 10.12 Sierra, 10.13 High Sierra, 10.14 Mojave, and 10.15 Catalina
- macOS 11 is the new Mac OS and is called Big Sur
  - \*Big Sur will run on both Intel-based and ARM-based Macs

### Major New macOS 11 Big Sur Features

- Refined user interface
  - More consistent with iOS with Control Center in menu bar
- Messages now has iOS feature set
- Safari has major improvements
  - Built-in translation tools, improved privacy, and improved extensions capability
- Maps has major improvements
  - Indoor maps, bicycling support, guides for places you want to visit, and more
- Support for both Intel-based and ARM-based Macs

# Major New iOS 14 Features

- New Home Screen with automatic App grouping
  - Apps can be automatically grouped together in a screen called the App Library
- Multiple sized widgets
  - You can add widgets to your Home screen for quick access to the information you need
- New Translate App
  - Can translate written and spoken words in real time
- New picture-in-picture feature
  - The video screen will be in a persistent box, regardless of the app you are using
- App Clips
  - Allows you to use parts of Apps without having to download, install, and sign in to a large app to do one simple thing.
- Improvements to Siri (new Siri interface), Messages (can pin conversations), Safari, Maps, and other Apple Apps

# Major New iPadOS 14 Features

- New features specific to the iPad
  - Better implementations of sidebars, toolbars, and menus specific to the iPad
- Redesigned widgets
  - You can add widgets to your Home screen for quick access to the information you need
- Improved Apple Pencil support
  - Scribble handwriting recognition so you can write in apps as well as input fields, and the iPad will be able to recognize it.
- HomeKit improvements
  - Facial recognition and tracking zones for security cameras
- Improvements to Siri, Safari, and other Apple Apps

## Major New watchOS 7 Features

- Sleep tracking
  - Tracks how much sleep you get, and also has a "wind down" function
- Ability to share watch faces
  - Improved complications support with bigger variety of complications
- Dance workout support
- Hand washing support
  - Can sense when you're washing your hands, and start a 20-second timer to make sure you wash properly