

**Independent  
watchOS app**

watchOS app

# History

**June 2015**

- Bugs watch app release

**March 2019**

- Bugs 5.0 watch app release

**April 2015**

- Watch series 1 release

**Sep. 2017**

- Watch series 3 release
- Cellular supported

**Sep. 2018**

- Watch series 4 release
- Audio feature supported
  1. Playback
  2. Audio control
  3. Background mode

**Sep. 2019**

- Watch series 5 release
- Independent app supported

# Independent watchOS app



# Topics

- **Authentication Users**
- **Keeping contents up to date**
- **Play Streaming**

# Authentication Users

**Users must be able to set up the application directly on Apple Watch**

- 1. Sign in with Apple (Recommended)**
- 2. Input ID/Password with iPhone/iPad**
- 3. Facebook, Payco**

# Keeping contents up to date

## 1. Watch Connectivity Framework

- Bluetooth based technology between iOS device and watch device
- Bugs 5.0 watch app's main protocol
- **Strong: Reliability**
- **Weak: Dependent on iOS Device**



# Keeping contents up to date

## 2. Cloudkit to store data in the cloud

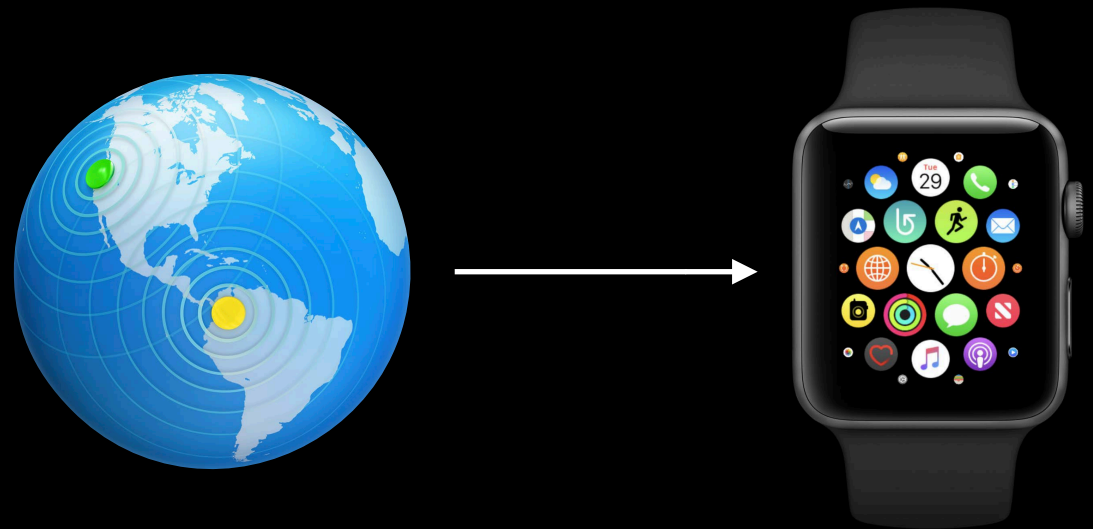
- Save data in an iCloud container, sharing that data across all the user's iCloud-connected devices
- **Strong: Connectivity**
- **Weak:**
  1. Difficulty
  2. Not used yet
  3. Not all users use this iCloud service



# Keeping contents up to date

## 3. Use Cellular or WiFi network

- WatchOS app can connect directly to web services and other online sources
- Strong: Common
- Weak: Playlist cannot be synchronized





# Play Streaming

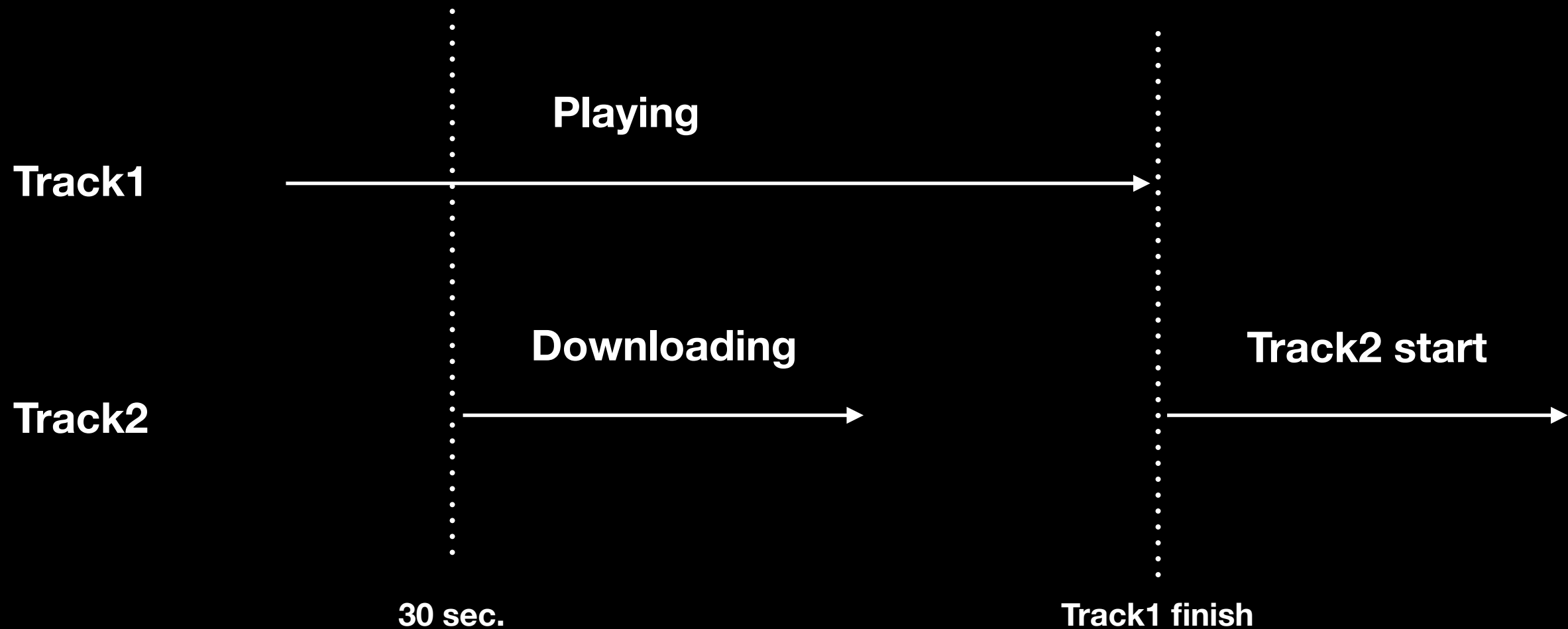
**Background audio in your app to provide a seamless playback experience.**

**Formats supported**

**AAC-LC, AAC-ELD, HE-AAC, HE-AACv2, MP3**

# Play Streaming

Testing scenario



# Play Streaming

## Problems



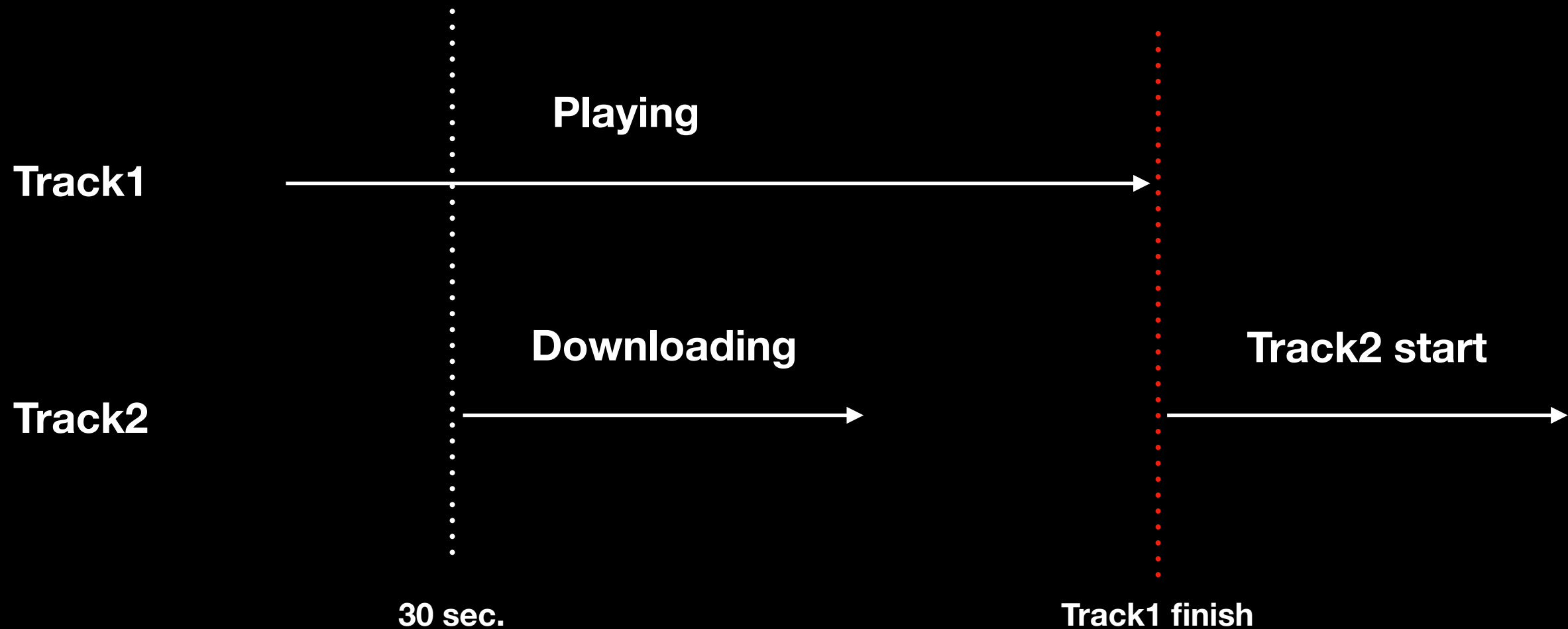
- Effect
- Equalizer

iOS: AudioToolBox Framework

watchOS: AudioEngine Framework

# Play Streaming

Testing scenario



# Summary

- **Authentication Users**
- **Keeping contents up to date**
- **Play Streaming**

# Examples

## Apple Podcast



**Q & A**