iCloudy

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Who Am I?

Software Engineer
Technical Writer
Technical Trainer

What is iCloud?

Find My Friends

iTunes in the Cloud

Photo Stream

Find My iPhone

iCloud Backup

iCloud Storage

iBook Syncing

Calendar, Mail and Contact Syncing

iTunes Match

Sync App Purchases

iCloud Storage

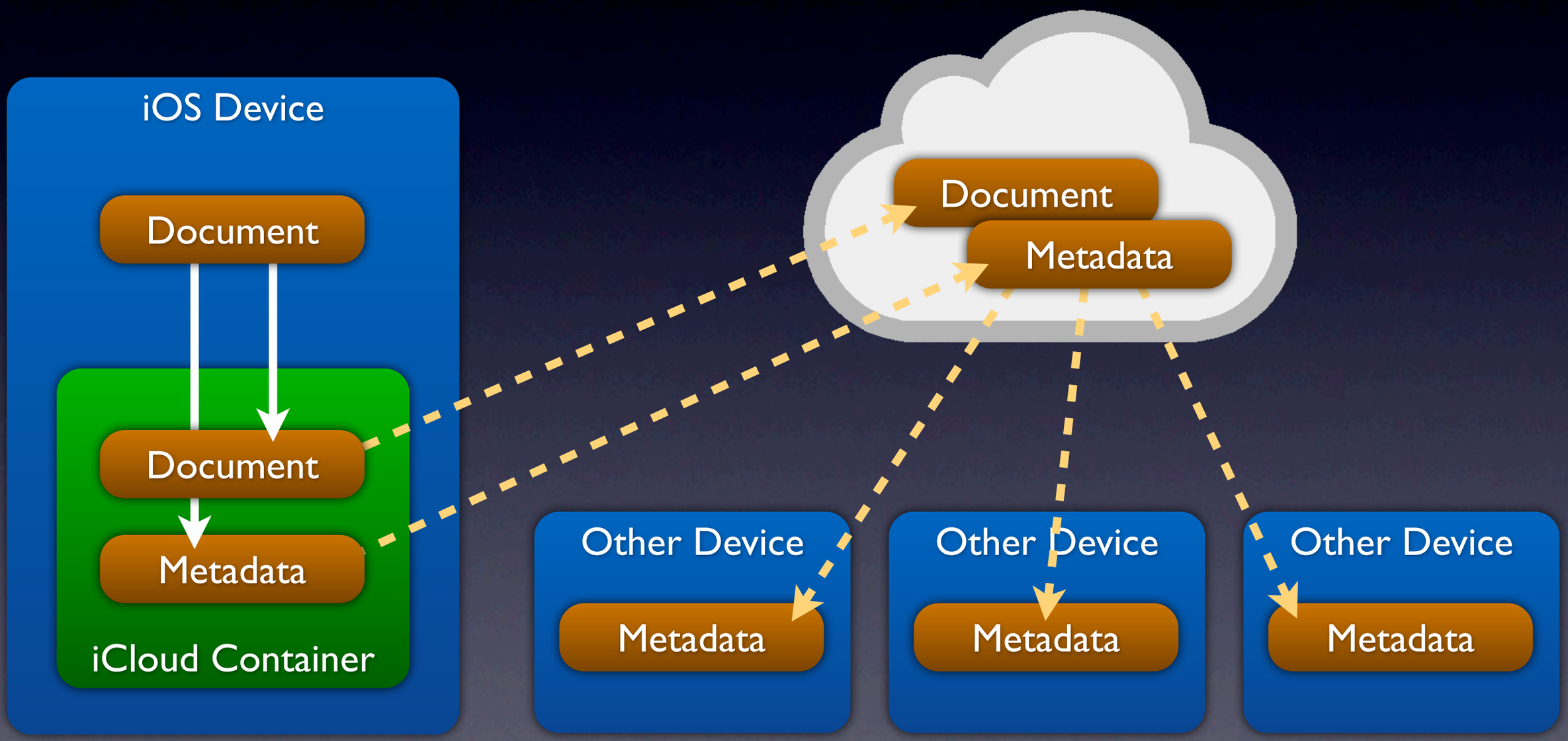
iCloud Storage Isn't

- ⊘ Remote storage
- ⊘ Communication channel between users
- ⊘ General communication between apps

So, What Is It?

- ✔ Sync data and documents among devices
- ✔ One user
- ✔ One app
- ✔ Or a tightly integrated suite of apps

How It Works


iOS Device
Document
Document
Metadata
iCloud Container
Document
Metadata
Other Device
Metadata
Other Device
Metadata
Other Device
Metadata

Advantages

- ✔ Work offline
- ✔ Minimizes bandwidth usage
- ✔ All devices notified of changes
- ✔ Devices download data on demand

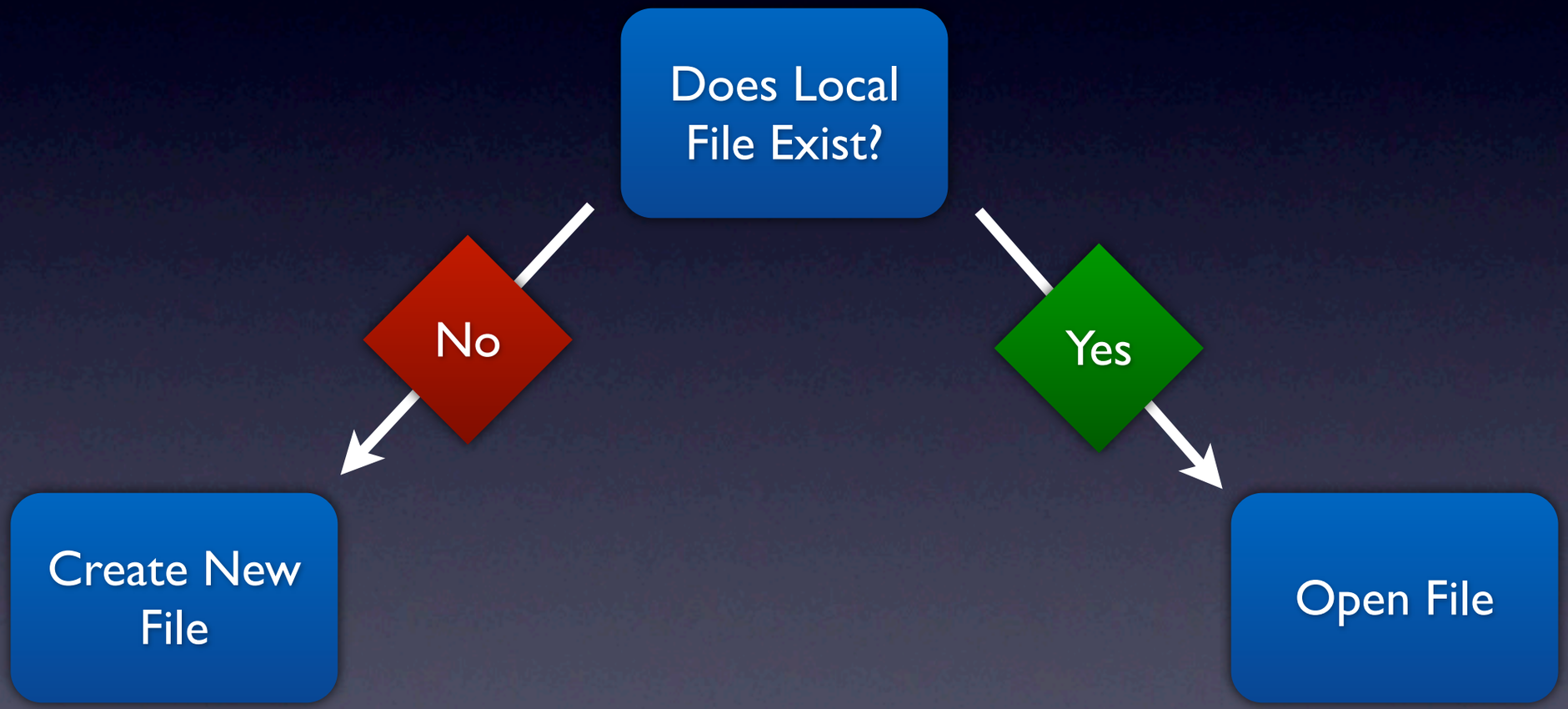
Challenges

- Ensure iCloud is enabled
- Search for file URL
- Coordinate file i/o on the device
- Manage conflicts between devices
- No SQLite databases
  - ✓ Unless you use Core Data

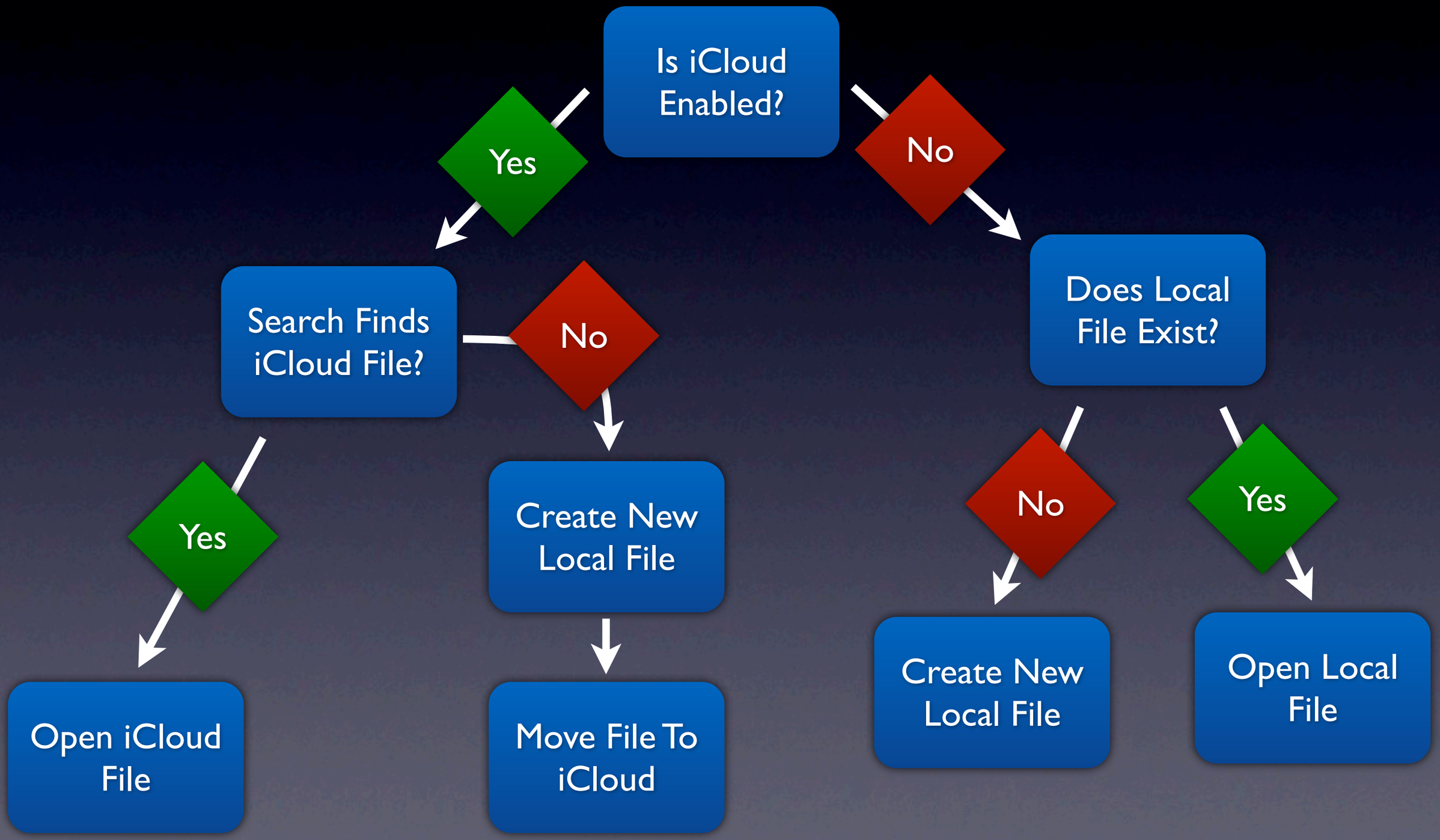
Core Data

- SQLite database never goes to the cloud
- Syncs transaction logs
- Must delete logs when you delete the file
- Core Data automatically merges conflicts

Single Document App



Single Document iCloud App



Unintended Consequences

Data Format Problem

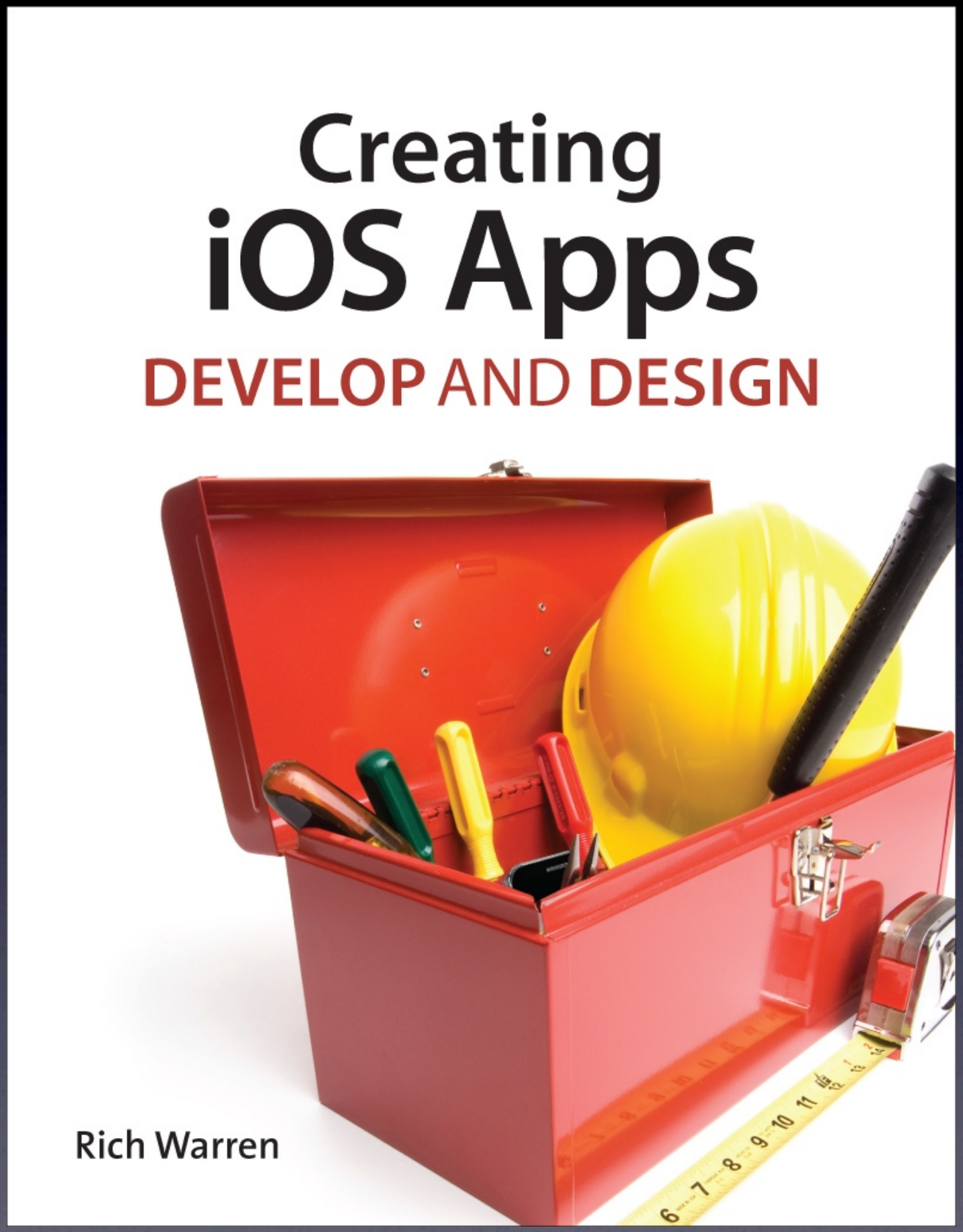
- Update changes data format
- User updates some devices
- Opens file in new app
- New data sent to iCloud
- Old app downloads update

Some Possible Effects

- ✔ Nothing
- ⊘ User loses new data
- ⊘ Document fails to load
- ⊘ Application crashes
- ⊘ Data corrupted
- ⊘ Uploads corrupted data to iCloud
- ⊘ Updates ping-pong back and forth

Possible Solutions

- ✔ Robust error checking
- ✔ Change the data's Uniform Type Identifier
- ✔ Add and check version metadata
- ✔ Test for problems before you release



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