

icloud

Presented by:

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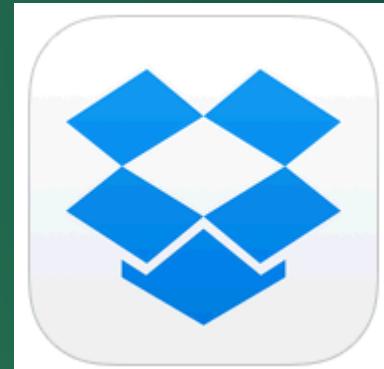
Sandia National Labs

What is iCloud?

- **iCloud** is an integrated computing solution by Apple Computer Inc. that provides cloud storage and apps for desktop, tablet and mobile devices.
- **iCloud** provides the ability to store documents, videos, photos, music and other data online and the ability to sync it between iOS-powered devices, Mac OS X, and Windows.
- **iCloud** also provides additional services like locating your phone, syncing browser data between iOS devices, Apple's mail service, calendar service, contacts service, news service, App Data, and can assist in storing website password information

What iCloud Is Not

- **iCloud** is not a traditional app (like Google Drive, Dropbox, Box, etc.) that can be installed on any device and used to manually upload data.
- iCloud does a lot more than simply back up data



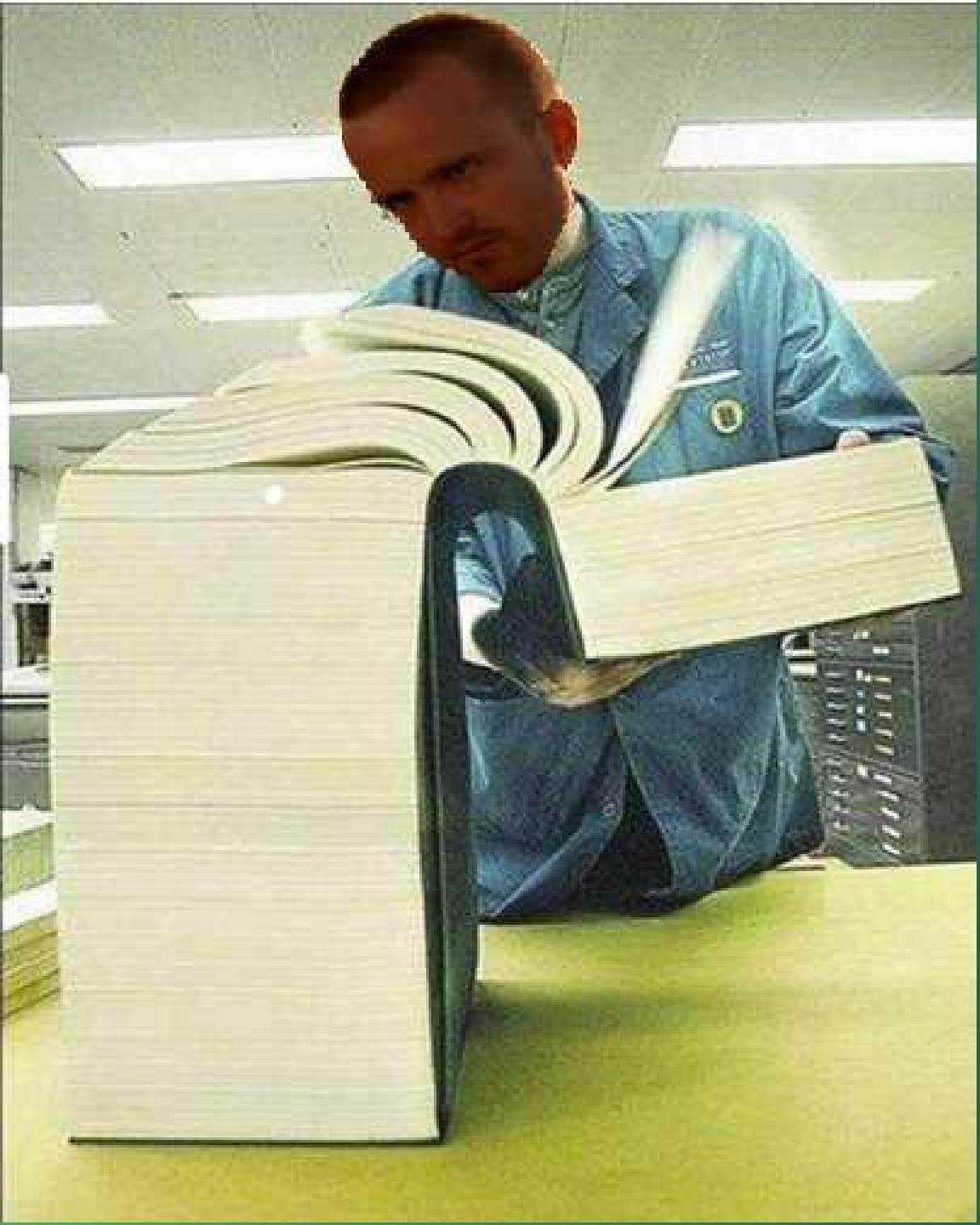
“iCloud” What Does that Mean?

This can be very confusing for the typical consumer/end user



iCloud is so intense!

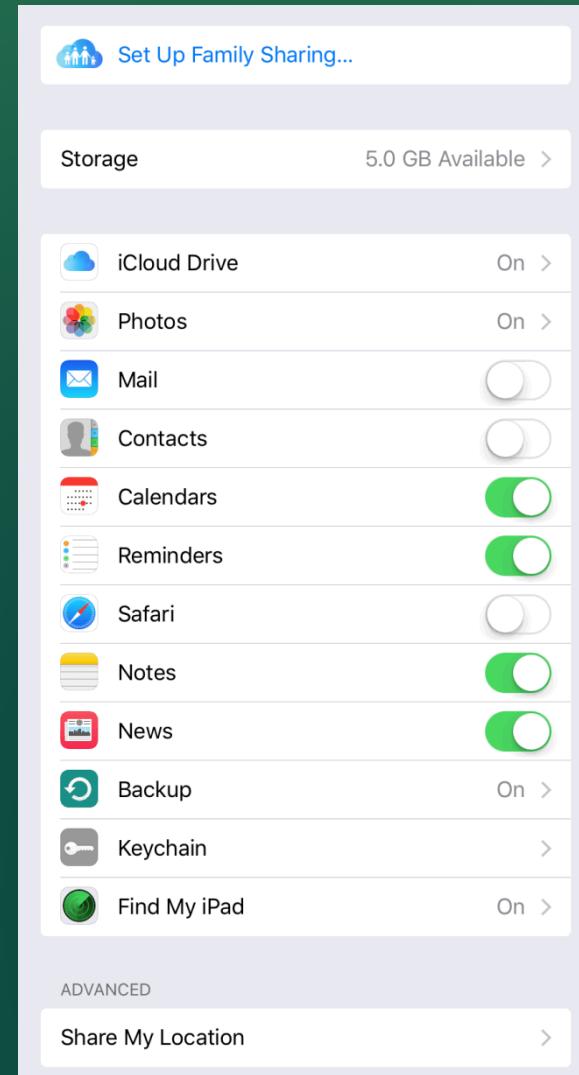
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Actual documentation
we found on iTunes
Concerning iCloud

Some Features of iCloud:

- Backup of iOS devices
- Photo sharing and storage
- Find My iPhone and iPad
- Mail, Calendar, Contacts, and Reminder services
- iCloud drive for data storage
- Notes, Keychain, Web data
- Family Sharing





WHAT'S A MOB
TO A KING



WHAT'S A KING
TO A GOD



WHAT'S A GOD
TO A NON-BELIEVER



WHAT'S
icLOUD
TO A
USER?

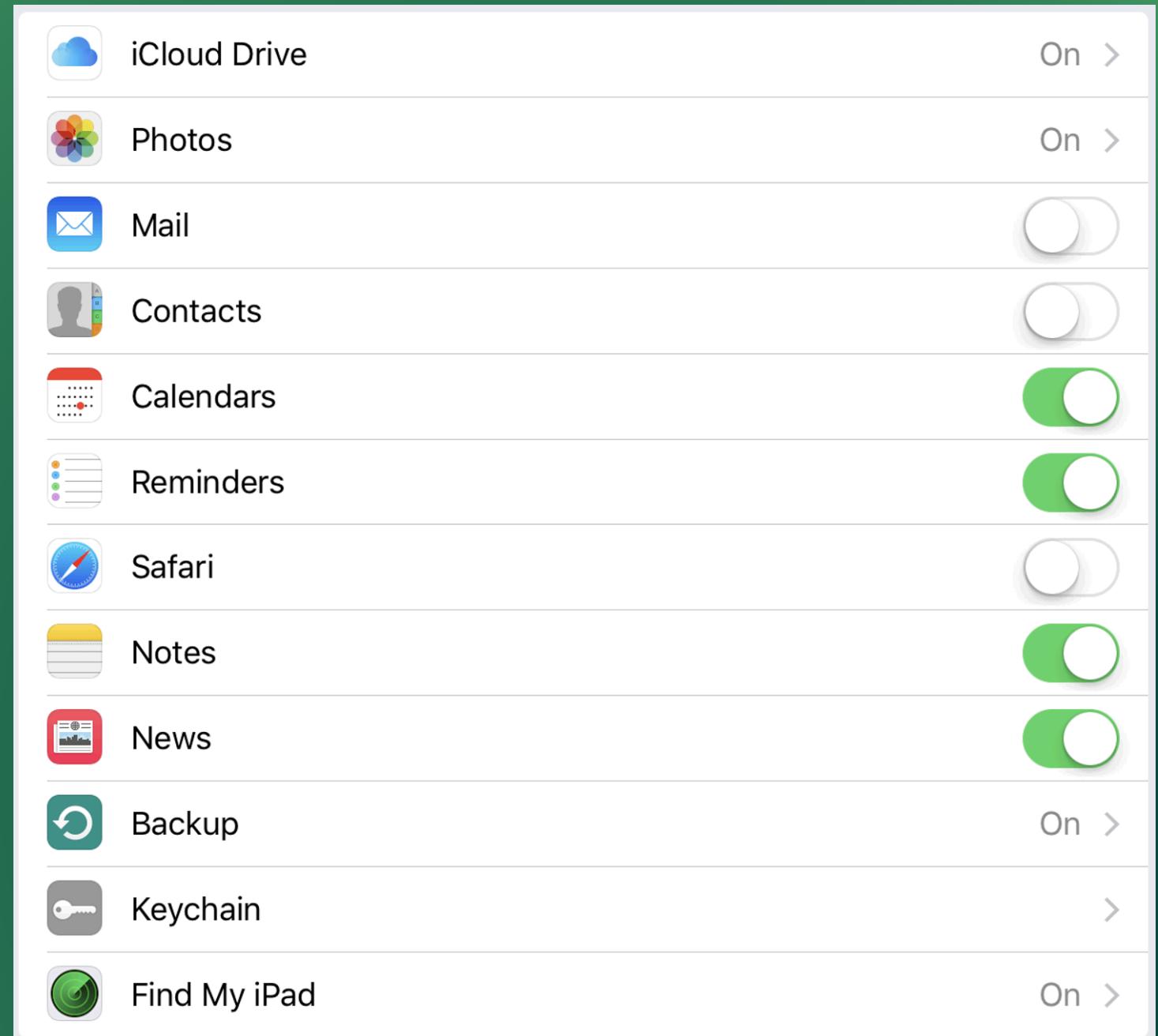


To Answer this, We Need to Know:
What is Automatically Backed Up in
iCloud?

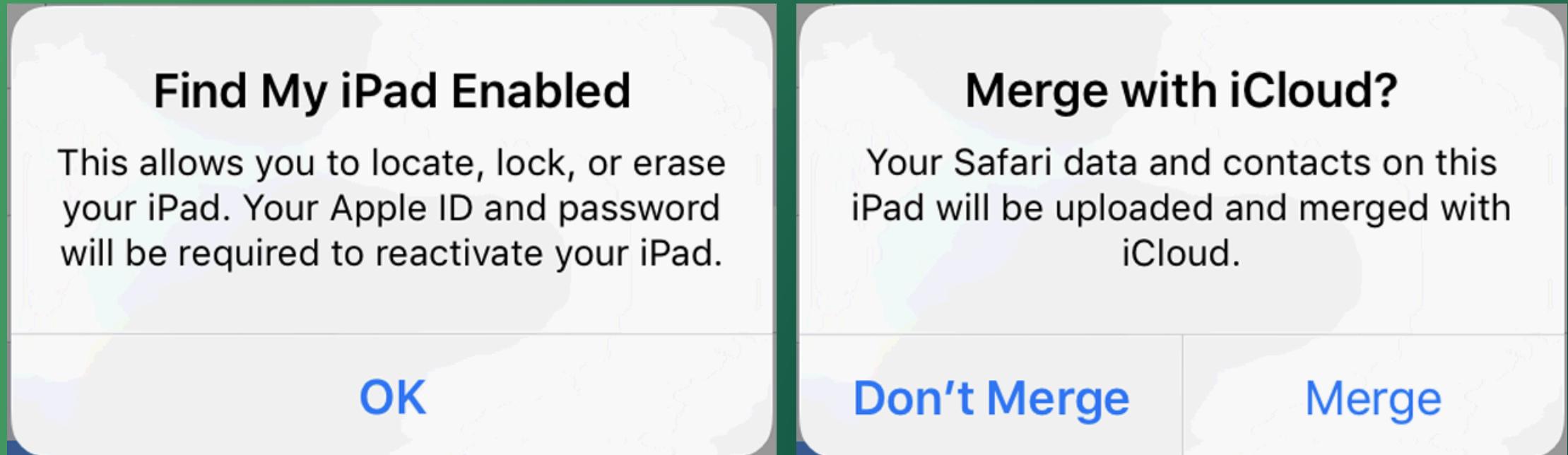
Jesse has no idea what
information is being sent
to the cloud...

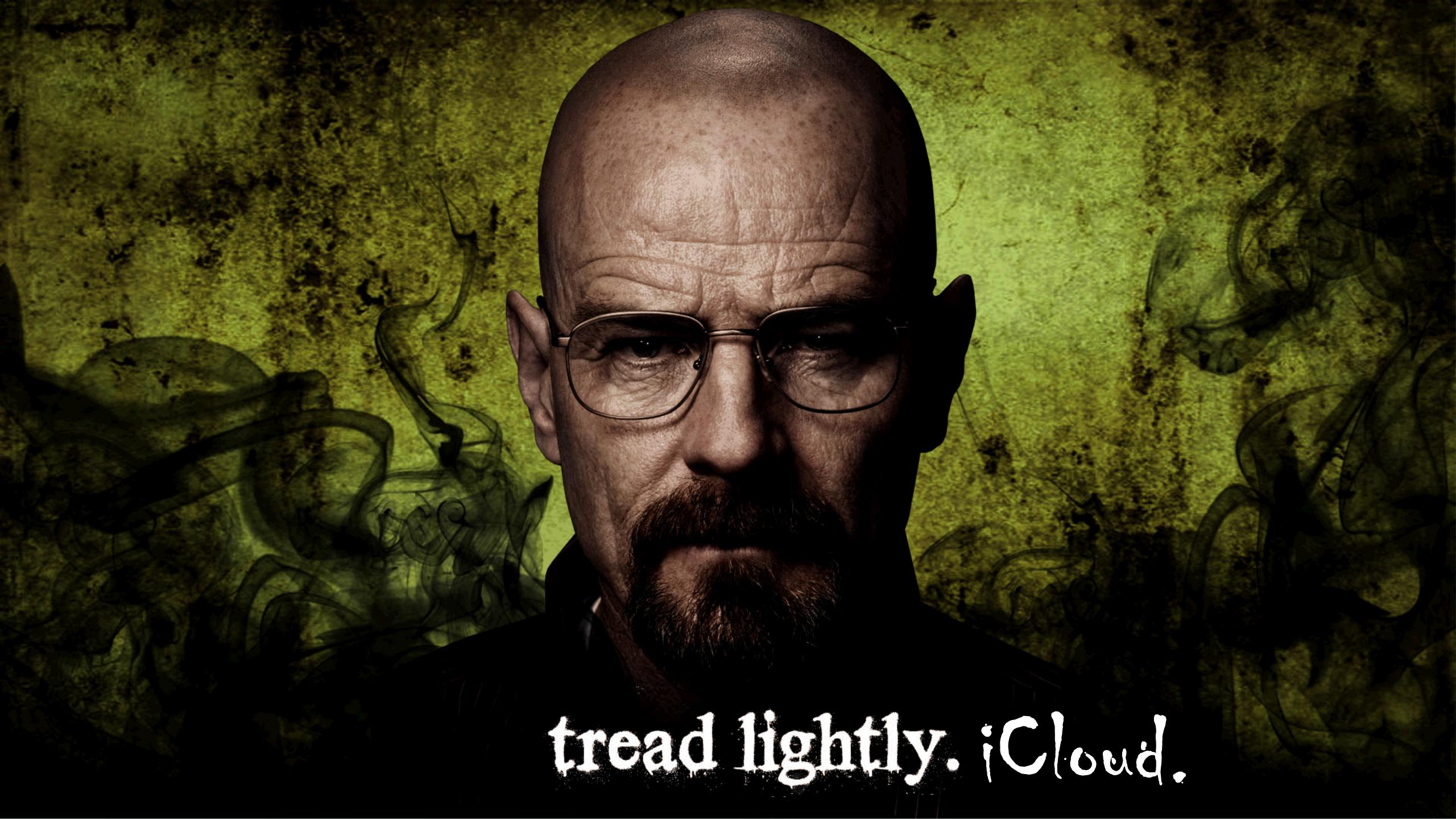
iCloud Defaults when First Signed in

- Drive
- Photos
- Calendars
- Reminders
- Notes
- News
- Backup
- Find My iPhone/iPad



Prompts Upon First Sign In - iCloud





tread lightly. iCloud.

iCloud Drive

Data of Users Using iCloud:

Currently MDMs do not have the ability to see what iCloud Drive features users have this enabled

Data that IS Stored in the iCloud Drive/Document:

iCloud Drive/Document Sync is very granular in what the user chooses to sync or not. You can choose what app is enabled to sync documents and you have to choose what documents within that app are synced.

Apps Tested for iCloud Drive/Documents Sync

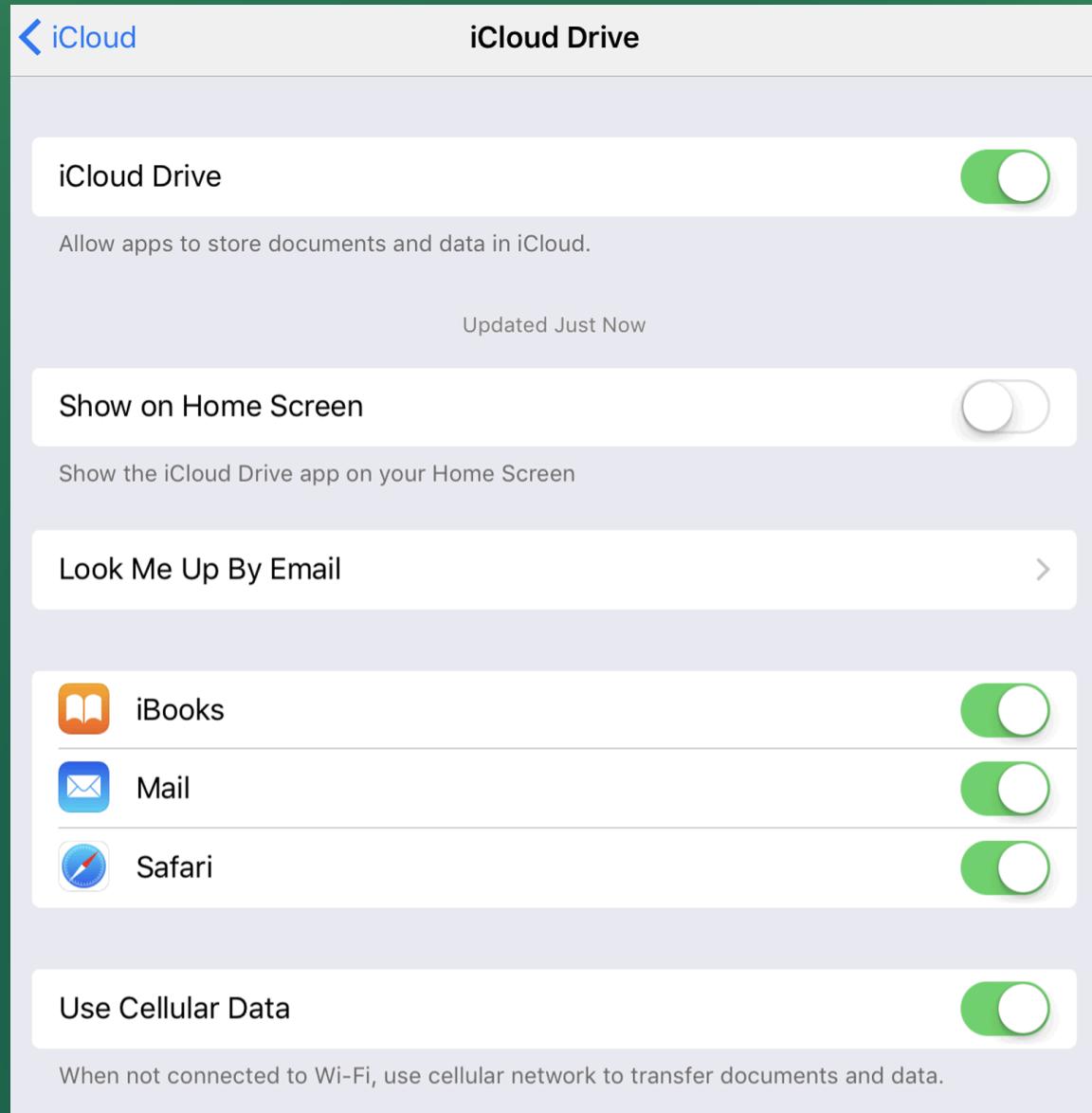
Microsoft Apps: Word, Excel, PowerPoint, OneNote

Apple Apps: Keynote, Pages, Garageband

Games: Bloons Tower Defense, Ski Safari: Adventure Time

Art/Photography: Sketchbook, iMovie

All tested apps only synced data to iCloud when user manually chooses option within application and specific to individual documents. This is not an "all or nothing option", but gives user granular control per app and per document.



iCloud Photos

There are three different iCloud Photo Syncing Abilities we have the ability to potentially disable with AirWatch. Here are their names with descriptions provided by Apple:

iCloud Photo Library

Automatically upload and store your entire library in iCloud to access photos and videos from all your devices.

My Photo Stream

Automatically upload new photos and send them to all of your iCloud devices when connected to Wi-Fi.

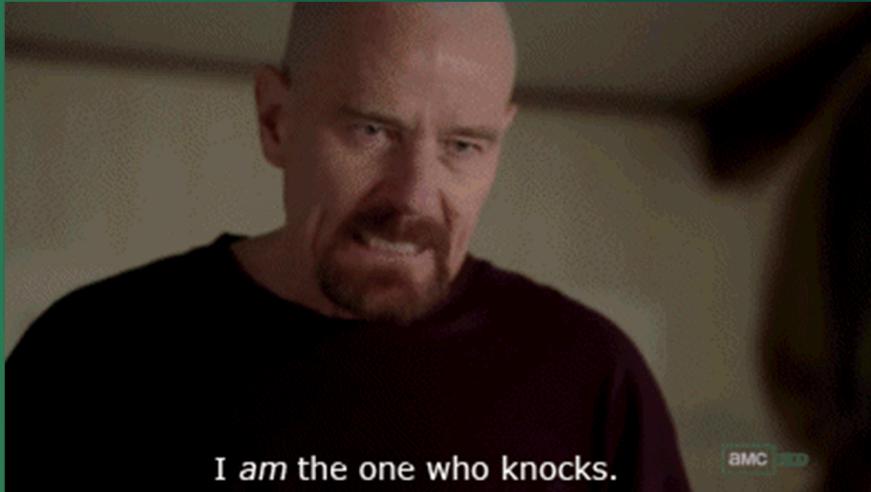
iCloud Photo Sharing/Shared Photo Stream

Manually create Albums to share with other people, or subscribe to other people's albums.



iCloud Mail, Contacts, Calendars, Reminders, Notes, and News

- All these settings are specific to the iCloud Account
- These settings can be turned on automatically when first signed in depending on account history
- The device offers no explanation as to what info is being synched
- These settings are not synching information from other accounts like an Exchange Account, Gmail Account, etc.

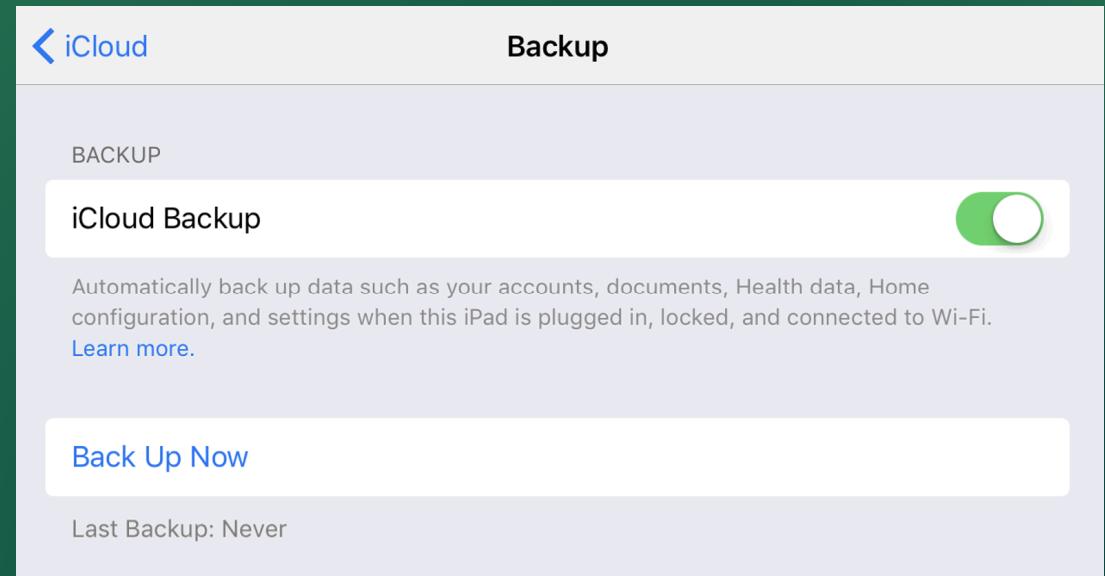


I AM NOT IN DANGER
I AM THE DANGER
I am iCloud!!!



iCloud Backup

- iCloud Backup is turned on Automatically when you sign into iCloud!
 - There are no options for the user to have granular control over what data is or is not stored in the backup. This option is simply enable or disabled; nothing in between.
 - Apple is not completely clear what information is backed up.
 - So what is backed up?



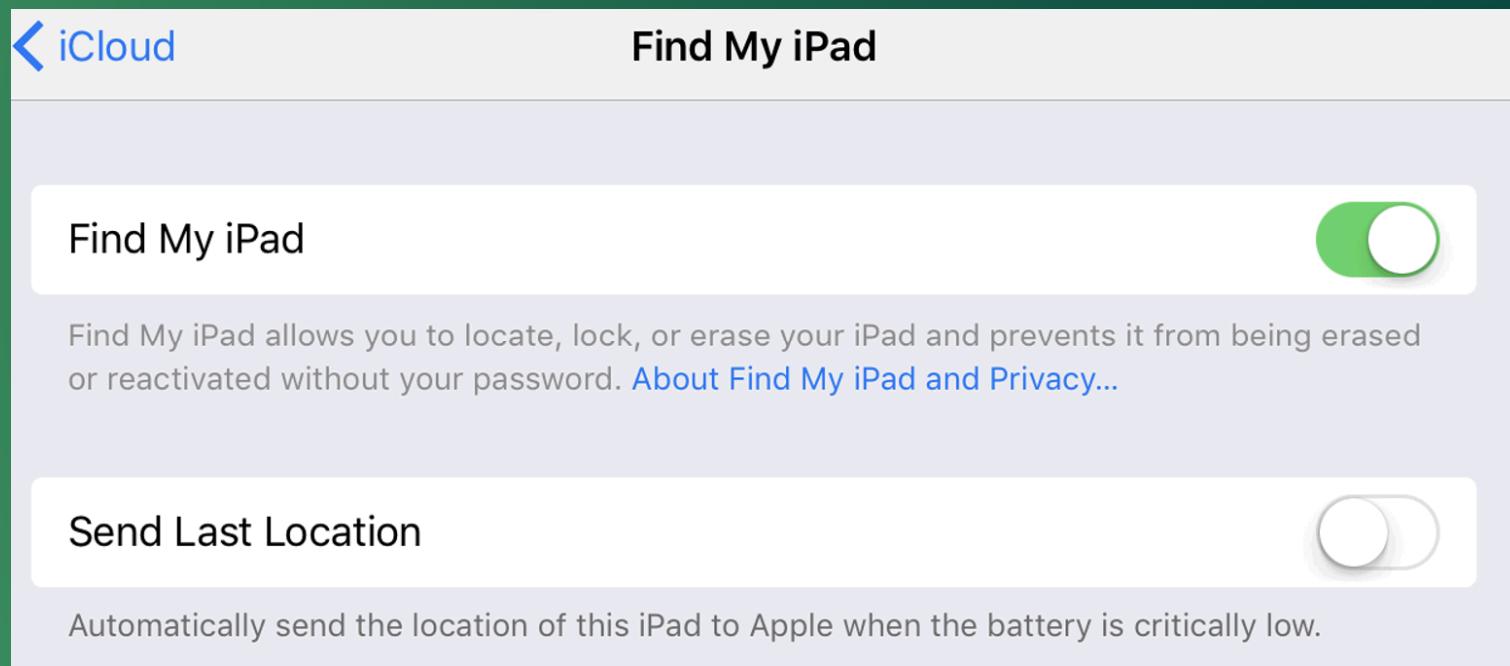
Information Stored On iCloud Backups



- Calendar Information, Accepted Meetings, (Deleted & Undeleted)
 - Subject of Meeting
 - Location
 - Attendees (Names & Email)
 - Details (Meeting Invite Email Body)
 - Date and Time of meeting
- Contacts
 - Name
 - Email
 - Mobile & Work #s
 - Office Location
 - Mailstop
 - Business Title
 - SharePoint Homepage
 - Picture
- Notes
 - “Device” Notes
 - “Outlook” Notes
- Documents
 - PDF Documents stored on the device
- Pictures
 - Pictures taken on the device
 - Pictures stored on the device
 - Screenshots stored when minimizing apps
- Videos
 - Videos taken on the device
 - Videos stored on the device
- Internet History
 - Cookie information
 - Search history & Site History
- SMS Messages (Deleted & Undeleted)
- Call History
- Network History
 - BSSID & SSID of Connected Networks

Find My iPhone/iPad

- Find my iPhone is a service provided by Apple that allows you to remotely locate your device if lost/stolen.
- iCloud is required for this option to be enabled.



Find My iPhone/iPad

- Currently there is no ability to disable Find My iPhone on iOS via AirWatch or any other MDM.
- Apple's DEP allows devices to bypass find my iPhone user lock for activation
- This creates a lock on the device that prevents the device from being used by another user until the Apple ID that was last signed in removes the lock



BRACE YOURSELVES



THE END IS COMING

Recap: This is what is Automatically Turned on when Signing into iCloud:

- Drive
- Photos
- Calendars
- Reminders
- Notes
- News
- Backup
- Find My iPhone/iPad

iCloud Mitigations



What can an Enterprise do to help mitigate
the Risks of iCloud?

Training



Containerized Solution



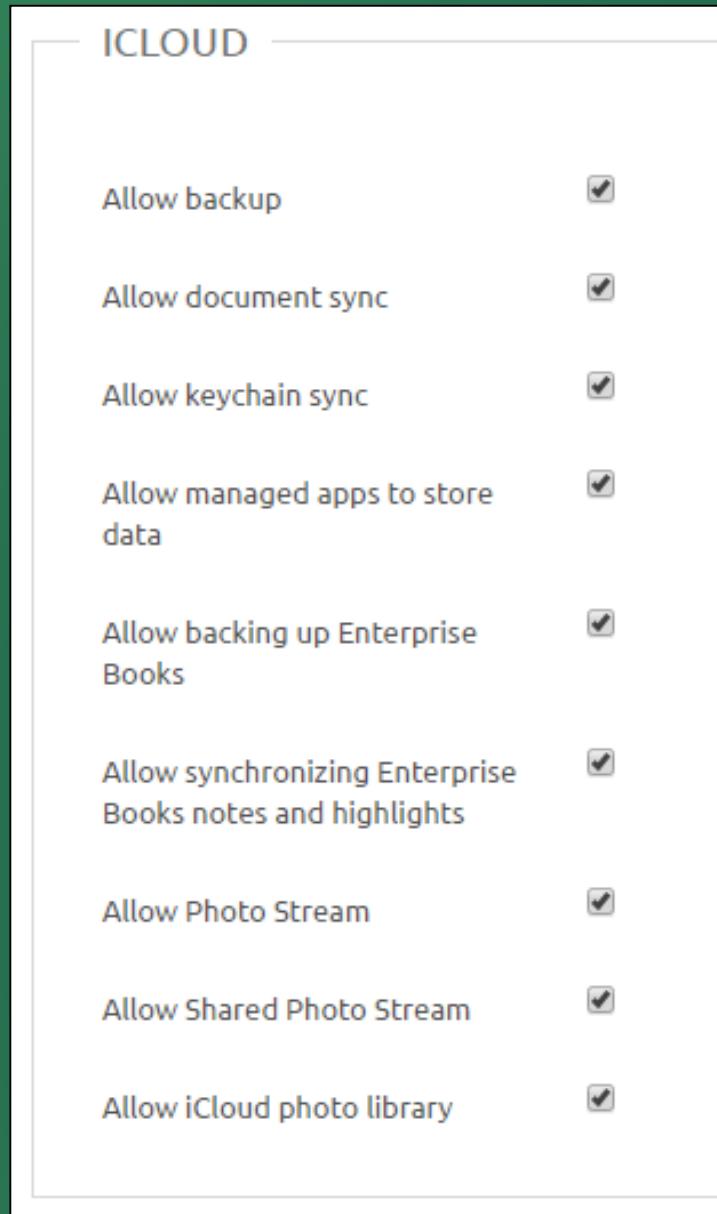
Whenever my computer tells me to
"Contact my system administrator."



I AM THE ONE

WHO ADMINISTRATES

Engineered Controls via MDM



Engineered Controls via Apple Configurator 2

- Allow iCloud backup**
- Allow iCloud documents & data**
- Allow iCloud Keychain**
- Allow managed apps to store data in iCloud**
- Allow backup of enterprise books**
- Allow notes and highlights sync for enterprise books**
- Allow iCloud Photo Sharing**
- Allow iCloud Photo Library**
- Allow My Photo Stream (disallowing can cause data loss)**
- Allow automatic sync while roaming**

Conclusion

- What is iCloud
- How it is different
- What information does Apple provide
- What does it automatically back up
- What information is contained in iCloud Backups
- What mitigations are there to prevent unwanted data being stored in iCloud

REMEMBER
I COULD
NAME

