目录

前言 1.1
概览 1.2
Frida逆向实例 1.3
代码段 1.3.1
Frida官网 1.3.1.1
网上别人的案例 1.3.1.2
frida 1.3.2
iOS的ObjC 1.3.2.1
ObjC的Object 1.3.2.1.1
$methods和$ownMethods 1.3.2.1.1.1
Interceptor=hook函数 1.3.2.1.2
单个类的单个函数 1.3.2.1.2.1
单个类的所有函数 1.3.2.1.2.2
所有类的所有函数 1.3.2.1.2.3
ApiResolver 1.3.2.1.3
Stalker 1.3.2.1.4
___lldb_unnamed_symbol2575$$akd 1.3.2.1.4.1
Android 1.3.2.2
hookForceStop 1.3.2.2.1
frida-trace 1.3.3
iOS的ObjC 1.3.3.1
akd中Apple账号验证过程 1.3.3.1.1
Preferences中Apple账号登录全过程 1.3.3.1.2
Android 1.3.3.2
commands 1.3.3.2.1
安卓进程system_server 1.3.3.2.2
Frida工具函数 1.4
通用js函数 1.4.1
Frida的js通用函数 1.4.1.1
iOS函数 1.4.2
iOS函数调用堆栈 1.4.2.1
Android函数 1.4.3
Java通用 1.4.3.1
Android类 1.4.3.2

C 1.4.3.3
native C 1.4.3.3.1
附录 1.5
参考资料 1.5.1

Frida逆向实例和工具函数

- 最新版本： `v1.0.0`
- 更新时间： `20240429`

简介

整理Frida逆向期间涉及到的各种实际案例，以及整理出的各种工具类函数。其中Frida的实际使用案例，包括网上别人的实例案例，包括官网的Cdeshare，以及frida和frida-trace。frida中包括iOS的ObjC的各种例子。包括Object对象的methods和ownMethods，以及用Interceptor去hook函数的，单个类的单个函数、单个类的所有函数、所有类的所有函数等。以及ApiResolver的案例以及Stalker的案例，尤其是___lldb_unnamed_symbol2575$$akd的完整代码；接着是frida-trace的实际例子，包括ObjC的akd中Apple账号验证过程、Preferences中Apple账号登录全过程的详细内容。

源码+浏览+下载

本书的各种源码、在线浏览地址、多种格式文件下载如下：

HonKit源码

- crifan/frida_re_example_function: Frida逆向实例和工具函数

如何使用此HonKit源码去生成发布为电子书

详见：crifan/honkit_template: demo how to use crifan honkit template and demo

在线浏览

- Frida逆向实例和工具函数 book.crifan.org
- Frida逆向实例和工具函数 crifan.github.io

离线下载阅读

- Frida逆向实例和工具函数 PDF
- Frida逆向实例和工具函数 ePub
- Frida逆向实例和工具函数 Mobi

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各种技术类教程，仅作为学习和研究使用。请勿用于任何非法用途。如有非法用途，均与本人无关。

鸣谢

感谢我的老婆**陈雪**的包容理解和悉心照料，才使得我 `crifan` 有更多精力去专注技术专研和整理归纳出这些电子书和技术教程，特此鸣谢。

其他

作者的其他电子书

本人 `crifan` 还写了其他 `150+` 本电子书教程，感兴趣可移步至：

crifan/crifan_ebook_readme: Crifan的电子书的使用说明

关于作者

关于作者更多介绍，详见：

关于CrifanLi李茂 – 在路上

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概览

Frida逆向期间，涉及到各种各种实际案例，以及整理出各种常用的工具类函数。整理至此，供参考。

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Frida逆向实例

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Frida实例之代码段

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Frida官网

- Frida官网
  - （Frida作者）oleavr写的，实例代码
    - oleavr/frida-agent-example: Example Frida agent written in TypeScript
  - frida-presentations

Frida Codeshare

由于Frida功能太强大，使得用的人很多，出现了很多用法和案例。官网专门做了个代码分享平台，列出了不同人的不用用法供大家参考，叫做：

- Frida CodeShare
  - 概述：The Frida CodeShare project is comprised of developers from around the world working together with one goal - push Frida to its limits in new and innovative ways.
  - 列表页面
    - Frida CodeShare BROWSE CODE

下面列出一些，相对常用的案例：

- iOS工具类
  - Project: iOS Utils
- 绕过证书校验
  - Project: iOS SSL Bypass

如何利用Frida codeshare的代码

除了拷贝代码放到自己 `js` 文件中之外，还可以直接引用：

直接调用分享的代码：

```
frida --codeshare <frida_codeshare_url_without_url_prefix> -f <YOUR_BINARY>
```

- 举例
  - ios-utils

    ```
    frida --codeshare lichao890427/ios-utils -f <YOUR_BINARY>
    ```

    - 对应URL是：https://codeshare.frida.re/@lichao890427/ios-utils/
  - dump-ios

    ```
    frida --codeshare lichao890427/dump-ios -f YOUR_BINARY
    ```

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网上别人的案例

- 网上的别人的Frida的使用案例
  - Frida在iOS平台进行OC函数hook的常用方法 | 8Biiit's Blog

lich4/personal_script

- personal_script/Frida_script at master · lich4/personal_script · GitHub
  - ios_utils
    - https://github.com/lich4/personal_script/blob/master/Frida_script/ios_utils.js
  - antijailbreak
    - https://github.com/lich4/personal_script/blob/master/Frida_script/antijailbreak.js
  - getdeviceinfo
    - https://github.com/lich4/personal_script/blob/master/Frida_script/getdeviceinfo.js
  - ios_dump
    - https://github.com/lich4/personal_script/blob/master/Frida_script/ios_dump.js
  - recvfrom
    - https://github.com/lich4/personal_script/blob/master/Frida_script/recvfrom.js
  - sendto
    - https://github.com/lich4/personal_script/blob/master/Frida_script/sendto.js
  - android_hook_detect
    - https://github.com/lich4/personal_script/blob/master/Frida_script/android_hook_detect.js

noobpk/frida-ios-hook

- frida-ios-hook/frida-scripts
  - ssl pinning
    - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/bypass-ssl-ios13.js
  - class + method
    - find
      - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/find-all-classes-methods.js
      - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/find-all-classes.js
      - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/find-app-classes-methods.js
      - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/find-app-classes.js
      - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/find-specific-method.js
    - hook
      - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/hook-all-methods-of-all-classes-app-only.js

        - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/hook-all-methods-of-specific-class.js
        - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/hook-specific-method-of-class.js
    - dump=show
        - https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/show-all-methods-of-specific-class.js

0xdea/frida-scripts

- 0xdea/frida-scripts
    - https://github.com/0xdea/frida-scripts/blob/master/raptor_frida_android_enum.js
    - https://github.com/0xdea/frida-scripts/blob/master/raptor_frida_android_trace.js

poxyran/misc

- 用frida实现各种功能
    - misc/frida-read-process-memory.py at master · poxyran/misc · GitHub
        - counts the number of basic blocks
            - misc/count_func_bb.py
        - enumerate-imports
            - misc/frida-enumerate-imports.py
        - enumerate-modules
            - misc/frida-enumerate-modules.py
        - heap-trace
            - misc/frida-heap-trace.py
        - memory-scan
            - misc/frida-memory-scan.py
        - read-process-memory
            - misc/frida-read-process-memory.py
        - write-process-memory
            - misc/frida-write-process-memory.py
        - frida-stalker-example
            - misc/frida-stalker-example.py

iddoeldor/frida-snippets

- frida-snippets/README.md at master · iddoeldor/frida-snippets · GitHub
    - Native
        - Load C/C++ module
        - One time watchpoint
        - Socket activity
        - Intercept open
        - Execute shell command
        - List modules

    - Log SQLite query
    - Log method arguments
    - Intercept entire module
    - Dump memory segments
    - Memory scan
    - Stalker
    - Cpp Demangler
    - Early hook
  - Android
    - Binder transactions
    - Get system property
    - Reveal manually registered native symbols
    - Enumerate loaded classes
    - Class description
    - Turn WiFi off
    - Set proxy
    - Get IMEI
    - Hook io InputStream
    - Android make Toast
    - Await for specific module to load
    - Webview URLS
    - Print all runtime strings & stacktrace
    - String comparison
    - Hook JNI by address
    - Hook constructor
    - Hook Java reflection
    - Trace class
    - Hooking Unity3d
    - Get Android ID
    - Change location
    - Bypass FLAG_SECURE
    - Shared Preferences update
    - Hook all method overloads
    - Register broadcast receiver
    - Increase step count
    - File system access hook $ frida --codeshare FrenchYeti/android-file-system-access-hook -f com.example.app --no-pause
    - How to remove/disable java hooks ? Assign null to the implementation property.
  - iOS
    - OS Log
    - iOS alert box
    - File access
    - Observe class
    - Find application UUID
    - Extract cookies
    - Describe class members

        - Class hierarchy
        - Hook refelaction
        - Device properties
        - Take screenshot
        - Log SSH commands
    - Windows
    - Sublime snippets
    - Vim snippets
    - JEB

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frida

此处介绍使用 `frida` 命令去调试的实际案例，供参考。

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iOS的ObjC

此处贴出用 `frida` 去调试各种 `iOS` 的 `OjbC` 的类和函数的实际案例，供参考。

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ObjC的Object

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$methods和$ownMethods

NSXPCConnection

对于 `ObjC` 的 `NSXPCConnection` 的实例对象：

```
argSelfObj: <NSXPCConnection: 0x154d09250> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
```

NSXPCConnection 的 $methods

代码：

```
const connMethods = argSelfObj.$methods;
console.log("connMethods=", connMethods);
```

输出：

```
connMethods= + geo_createGEODaemonToMapsPushDaemonConnection,+ geo_withMapsPushDaemon:e
rrorHandler:,+ beginTransaction,+ endTransaction,+ _handoffCurrentReplyToQueue:block:,+
 currentConnection,+ fromPBCodable:,+ CKSQLiteClassName,+ CA_automaticallyNotifiesObser
vers:,+ CA_setterForProperty:,+ CA_getterForProperty:,+ CA_encodesPropertyConditionally
:type:,+ CA_CAMLPropertyForKey:,+ version,+ load,+ implementsSelector:,+ instancesImple
mentSelector:,+ setVersion:,+ accessInstanceVariablesDirectly,+ automaticallyNotifiesOb
serversForKey:,+ _createMutableOrderedSetValueGetterWithContainerClassID:key:,+ cancelP
reviousPerformRequestsWithTarget:selector:object:,+ _createMutableArrayValueGetterWithC
ontainerClassID:key:,+ setKeys:triggerChangeNotificationsForDependentKey:,+ _createMuta
bleSetValueGetterWithContainerClassID:key:,+ _createOtherValueGetterWithContainerClassI
D:key:,+ _createOtherValueSetterWithContainerClassID:key:,+ _createValuePrimitiveGetter
WithContainerClassID:key:,+ _createValuePrimitiveSetterWithContainerClassID:key:,+ repl
acementObjectForPortCoder:,+ cancelPreviousPerformRequestsWithTarget:,+ _createValueGet
terWithContainerClassID:key:,+ _createValueSetterWithContainerClassID:key:,+ _shouldAdd
ObservationForwardersForKey:,+ _keysForValuesAffectingValueForKey:,+ classForKeyedUnarc
hiver,+ keyPathsForValuesAffectingValueForKey:,+ classFallbacksForKeyedArchiver,+ SFSQL
iteClassName,+ _copyDescription,+ doesNotRecognizeSelector:,+ __allocWithZone_OA:,+ ins
tanceMethodSignatureForSelector:,+ methodSignatureForSelector:,+ init,+ description,+ d
ealloc,+ supportsBSXPCSecureCoding,+ bs_isPlistableType,+ bs_dataFromObject:,+ bs_secur
eObjectFromData:ofClass:,+ bs_secureObjectFromData:ofClasses:,+ bs_objectFromData:,+ bs
_decodedFromData:,+ bs_secureDataFromObject:,+ bs_secureDecodedFromData:,+ bs_secureDec
odedFromData:withAdditionalClasses:,+ supportsRBSXPCSecureCoding,+ new,+ self,+ allocWi
thZone:,+ superclass,+ initialize,+ performSelector:withObject:,+ performSelector:withO
bject:withObject:,+ performSelector:,+ zone,+ autorelease,+ isSubclassOfClass:,+ _isDea
llocating,+ isMemberOfClass:,+ allowsWeakReference,+ alloc,+ isEqual:,+ isKindOfClass:,
+ retainWeakReference,+ retain,+ retainCount,+ instancesRespondToSelector:,+ hash,+ mut
ableCopyWithZone:,+ forwardingTargetForSelector:,+ resolveInstanceMethod:,+ mutableCopy
,+ methodForSelector:,+ instanceMethodForSelector:,+ release,+ respondsToSelector:,+ is
AncestorOfObject:,+ _tryRetain,+ debugDescription,+ conformsToProtocol:,+ class,+ resol
veClassMethod:,+ copy,+ copyWithZone:,+ forwardInvocation:,+ isProxy,+ isFault,+ toPBCo
dable,+ _intents_compareValue:relation:,+ _intents_readableSubtitleWithLocalizer:metada
ta:,+ descriptionAtIndent:,+ _intents_enumerateObjectsOfClass:withBlock:,+ _intents_isV
```

```
alidKey:,+ _setterForProperty:,+ _intents_indexingRepresentation,+ _intents_readableTit
leWithLocalizer:metadata:,+ _intents_readableTitleForLanguage:withMetadata:,+ _intents_
readableSubtitleForLanguage:withMetadata:,+ _intents_displayImageWithLocalizer:,+ _inte
nts_localizedCopyWithLocalizer:,+ _intents_readableTitleForLanguage:,+ _intents_readabl
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ocalizer:,+ _intents_readableDescriptionWithLocalizer:metadata:,+ if_setValueIfNonNil:f
orKey:,+ if_setValueIfYES:forKey:,+ stringValueSafe:,+ utf8ValueSafe:,+ boolValueSafe,+
 boolValueSafe:,+ int64ValueSafe,+ int64ValueSafe:,+ doubleValueSafe,+ doubleValueSafe:
,+ stringValueSafe,+ utf8ValueSafe,+ CKDescriptionPropertiesWithPublic:private:shouldEx
pand:,+ CKDescription,+ CKUnredactedDescription,+ CKRedactedDescription,+ CKDescription
Redact:avoidShortDescription:,+ CKObjectDescriptionRedact:avoidShortDescription:,+ CKOb
jectDescriptionRedact:,+ ck_bindInStatement:atIndex:,+ CKAssignToContainerWithID:,+ CKS
ingleLineDescription,+ _CKDescriptionWithExpansion:,+ CKExpandedDescription,+ CKPropert
iesDescriptionStringFromProperties:,+ CKHashedDescription,+ CKPropertiesDescription,+ C
A_validateValue:forKey:,+ CA_copyRenderValue,+ CAMLTypeForKey:,+ encodeWithCAMLWriter:,
+ CA_distanceToValue:,+ CA_interpolateValues:::interpolator:,+ CA_interpolateValue:byFr
action:,+ CAMLType,+ CA_copyNumericValue:,+ CA_archivingValueForKey:,+ CA_copyRenderVal
ueWithColorspace:,+ CA_addValue:multipliedBy:,+ CA_roundToIntegerFromValue:,+ CAMLTypeS
upportedForKey:,+ CA_prepareRenderValue,+ carpf_registerObserverForKeyPath:options:hand
ler:,+ _allowsDirectEncoding,+ awakeAfterUsingCoder:,+ classForCoder,+ replacementObjec
tForCoder:,+ removeObserver:forKeyPath:,+ removeObservation:,+ _isKVOA,+ _changeValueFo
rKeys:count:maybeOldValuesDict:maybeNewValuesDict:usingBlock:,+ setObservationInfo:,+ w
illChangeValueForKey:,+ _didChangeValuesForKeys:,+ _willChangeValuesForKeys:,+ valueFor
UndefinedKey:,+ addObserver:forKeyPath:options:context:,+ setValue:forKey:,+ performSel
ectorOnMainThread:withObject:waitUntilDone:modes:,+ performSelector:onThread:withObject
:waitUntilDone:modes:,+ dictionaryWithValuesForKeys:,+ didChangeValueForKey:withSetMuta
tion:usingObjects:,+ valueForKeyPath:,+ performSelector:onThread:withObject:waitUntilDo
ne:,+ classForKeyedArchiver,+ _notifyObserversOfChangeFromValuesForKeys:toValuesForKeys
:,+ _observerStorageOfSize:,+ willChangeValueForKey:withSetMutation:usingObjects:,+ per
formSelectorOnMainThread:withObject:waitUntilDone:,+ didChangeValueForKey:,+ setNilValu
eForKey:,+ _pendingChangeNotificationsArrayForKey:create:,+ removeObservation:forObserv
ableKeyPath:,+ performSelector:withObject:afterDelay:inModes:,+ classForPortCoder,+ per
formSelectorInBackground:withObject:,+ finishObserving,+ _addObserver:forProperty:optio
ns:context:,+ observationInfo,+ willChange:valuesAtIndexes:forKey:,+ classForArchiver,+
 _notifyObserversForKeyPath:change:,+ _changeValueForKey:key:key:usingBlock:,+ addObser
verBlock:,+ _observerStorage,+ setObservation:forObservingKeyPath:,+ mutableOrderedSetV
alueForKeyPath:,+ addObserver:forObservableKeyPath:,+ performSelector:object:afterDelay
:,+ setValuesForKeysWithDictionary:,+ performSelector:withObject:afterDelay:,+ didChang
e:valuesAtIndexes:forKey:,+ _destroyObserverList,+ addChainedObservers:,+ valueForKey:,
+ validateValue:forKeyPath:error:,+ mutableArrayValueForKeyPath:,+ _receiveBox:,+ recei
veObservedError:,+ mutableSetValueForKeyPath:,+ _isToManyChangeInformation,+ replacemen
tObjectForKeyedArchiver:,+ _overrideUseFastBlockObservers,+ addObservationTransformer:,
+ addObserver:,+ mutableSetValueForKey:,+ _changeValueForKey:usingBlock:,+ mutableArray
ValueForKey:,+ _didEndKeyValueObserving,+ _implicitObservationInfo,+ replacementObjectF
orArchiver:,+ _removeObserver:forProperty:,+ validateValue:forKey:error:,+ autoContentA
ccessingProxy,+ observeValueForKeyPath:ofObject:change:context:,+ _willBeginKeyValueObs
erving,+ mutableOrderedSetValueForKey:,+ removeObserver:forKeyPath:context:,+ setValue:
forKeyPath:,+ receiveObservedValue:,+ setValue:forUndefinedKey:,+ isNSSet__,+ isNSString__,+ isNSDate__,+ isNSNumber__,+ isNSData__,+ isNSObject__,+ isNSArray__,+ isNSValue__
,+ isNSTimeZone__,+ isNSOrderedSet__,+ isNSDictionary__,+ _cfTypeID,+ isNSCFConstantStr
ing__,+ __release_OA,+ __retain_OA,+ ___tryRetain_OA,+ __dealloc_zombie,+ __autorelease
_OA,+ bs_secureEncoded,+ bs_encoded,+ NSRepresentation,+ RBSIsXPCObject,+ pep_onMainThr
ead,+ pep_onThread:,+ pep_onThread:immediateForMatchingThread:,+ pep_onOperationQueue:p
```

```
riority:,+ pep_onMainThreadIfNecessary,+ pep_afterDelay:,+ pep_onOperationQueue:,+ pep_
getInvocation:,+ isNull,+ performSelector:withObject:afterDelay:ignoreMenuTracking:,+ _
__im_afterDelay:,+ __im_afterDelay:modes:,+ __im_onThread:,+ __im_onMainThread,+ __im_on
Thread:immediateForMatchingThread:,+ __im_onMainThreadIfNecessary,+ __im_onDetachedThre
ad,+ __im_getInvocation:,+ un_safeBoolValue,+ finalize,- cuValueForEntitlementNoCache:,
- uniquify,- hasEntitlement:,- shouldHandleInvalidation,- setShouldHandleInvalidation:,
- _EX_transaction,- _EX_setTransaction:,- _EX_extensionProcess,- _EX_setExtensionProces
s:,- addBarrierBlock:,- serviceName,- initWithMachServiceName:options:,- _sendInvocatio
n:orArguments:count:methodSignature:selector:withProxy:,- setUserInfo:,- setOptions:,-
effectiveGroupIdentifier,- setExportedObject:,- remoteObjectProxy,- userInfo,- interrup
tionHandler,- start,- remoteObjectProxyWithTimeout:errorHandler:,- _setQueue:,- _decode
AndInvokeReplyBlockWithEvent:sequence:replyInfo:,- _setUUID:,- initWithMachServiceName:
,- invalidate,- exportedObject,- initWithServiceName:options:,- exportedInterface,- act
ivate,- _xpcConnection,- init,- invalidationHandler,- _queue,- setRemoteObjectInterface
:,- _unboostingRemoteObjectProxy,- setExportedInterface:,- initWithEndpoint:,- synchron
ousRemoteObjectProxyWithErrorHandler:,- _sendSelector:withProxy:arg1:arg2:arg3:arg4:,-
_decodeAndInvokeMessageWithEvent:flags:,- _sendSelector:withProxy:arg1:arg2:arg3:,- _in
itWithRemoteService:name:options:mode:,- delegate,- set_additionalInvalidationHandler:,
- _initWithRemoteService:name:options:,- resume,- _setLanguages:,- _decodeProgressMessa
geWithData:flags:,- remoteObjectProxyWithUserInfo:errorHandler:,- valueForEntitlement:,
- _pauseProgress:,- initWithServiceName:,- auditSessionIdentifier,- setInterruptionHand
ler:,- setInvalidationHandler:,- _cancelProgress:,- _resumeProgress:,- _killConnection:
,- _sendSelector:withProxy:arg1:arg2:,- _errorDescription,- suspend,- stop,- replacemen
tObjectForEncoder:object:,- _sendDesistForProxy:,- remoteObjectProxyWithErrorHandler:,-
 _initWithRemoteConnection:name:,- effectiveUserIdentifier,- _additionalInvalidationHan
dler,- _sendSelector:withProxy:arg1:,- _remoteObjectInterfaceClass,- _sendSelector:with
Proxy:,- _setBootstrapObject:forKey:,- scheduleSendBarrierBlock:,- _initWithCustomTrans
port:,- auditToken,- _setTargetUserIdentifier:,- remoteObjectInterface,- setDelegate:,-
 description,- initWithListenerEndpoint:,- dealloc,- processIdentifier,- endpoint,- toP
BCodable,- _intents_compareValue:relation:,- _intents_readableSubtitleWithLocalizer:met
adata:,- descriptionAtIndent:,- _intents_enumerateObjectsOfClass:withBlock:,- _intents_
isValidKey:,- _setterForProperty:,- _intents_indexingRepresentation,- _intents_readable
TitleWithLocalizer:metadata:,- _intents_readableTitleForLanguage:withMetadata:,- _inten
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ntents_localizedCopyWithLocalizer:,- _intents_readableTitleForLanguage:,- _intents_read
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btitleForLanguage:,- _intents_displayImageForLanguage:,- _intents_setterForPropertyWith
Name:,- _intents_localizedCopyForLanguage:,- _intents_readableDescriptionForLanguage:,-
 _intents_readableDescriptionForLanguage:withMetadata:,- _intents_readableDescriptionWi
thLocalizer:,- _intents_readableDescriptionWithLocalizer:metadata:,- if_setValueIfNonNi
l:forKey:,- if_setValueIfYES:forKey:,- stringValueSafe:,- utf8ValueSafe:,- boolValueSaf
e,- boolValueSafe:,- int64ValueSafe,- int64ValueSafe:,- doubleValueSafe,- doubleValueSa
fe:,- stringValueSafe,- utf8ValueSafe,- CKDescriptionPropertiesWithPublic:private:shoul
dExpand:,- CKDescription,- CKUnredactedDescription,- CKRedactedDescription,- CKDescript
ionRedact:avoidShortDescription:,- CKObjectDescriptionRedact:avoidShortDescription:,- C
KObjectDescriptionRedact:,- ck_bindInStatement:atIndex:,- CKAssignToContainerWithID:,-
CKSingleLineDescription,- _CKDescriptionWithExpansion:,- CKExpandedDescription,- CKProp
ertiesDescriptionStringFromProperties:,- CKHashedDescription,- CKPropertiesDescription,
- CA_validateValue:forKey:,- CA_copyRenderValue,- CAMLTypeForKey:,- encodeWithCAMLWrite
r:,- CA_distanceToValue:,- CA_interpolateValues:::interpolator:,- CA_interpolateValue:b
yFraction:,- CAMLType,- CA_copyNumericValue:,- CA_archivingValueForKey:,- CA_copyRender
ValueWithColorspace:,- CA_addValue:multipliedBy:,- CA_roundToIntegerFromValue:,- CAMLTy
peSupportedForKey:,- CA_prepareRenderValue,- carpf_registerObserverForKeyPath:options:h
andler:,- _allowsDirectEncoding,- awakeAfterUsingCoder:,- classForCoder,- implementsSel
ector:,- replacementObjectForCoder:,- removeObserver:forKeyPath:,- removeObservation:,-
 _isKVOA,- _changeValueForKeys:count:maybeOldValuesDict:maybeNewValuesDict:usingBlock:,
```

```
- setObservationInfo:,- willChangeValueForKey:,- _didChangeValuesForKeys:,- _willChange
ValuesForKeys:,- valueForUndefinedKey:,- addObserver:forKeyPath:options:context:,- setV
alue:forKey:,- performSelectorOnMainThread:withObject:waitUntilDone:modes:,- performSel
ector:onThread:withObject:waitUntilDone:modes:,- dictionaryWithValuesForKeys:,- didChan
geValueForKey:withSetMutation:usingObjects:,- valueForKeyPath:,- performSelector:onThre
ad:withObject:waitUntilDone:,- classForKeyedArchiver,- _notifyObserversOfChangeFromValu
esForKeys:toValuesForKeys:,- _observerStorageOfSize:,- willChangeValueForKey:withSetMut
ation:usingObjects:,- performSelectorOnMainThread:withObject:waitUntilDone:,- didChange
ValueForKey:,- setNilValueForKey:,- replacementObjectForPortCoder:,- _pendingChangeNoti
ficationsArrayForKey:create:,- removeObservation:forObservableKeyPath:,- performSelecto
r:withObject:afterDelay:inModes:,- classForPortCoder,- performSelectorInBackground:with
Object:,- finishObserving,- _addObserver:forProperty:options:context:,- observationInfo
,- willChange:valuesAtIndexes:forKey:,- classForArchiver,- _notifyObserversForKeyPath:c
hange:,- _changeValueForKey:key:key:usingBlock:,- addObserverBlock:,- _observerStorage,
- setObservation:forObservingKeyPath:,- mutableOrderedSetValueForKeyPath:,- addObserver
:forObservableKeyPath:,- performSelector:object:afterDelay:,- setValuesForKeysWithDicti
onary:,- performSelector:withObject:afterDelay:,- didChange:valuesAtIndexes:forKey:,- _
destroyObserverList,- addChainedObservers:,- valueForKey:,- validateValue:forKeyPath:er
ror:,- mutableArrayValueForKeyPath:,- _receiveBox:,- receiveObservedError:,- mutableSet
ValueForKeyPath:,- _isToManyChangeInformation,- replacementObjectForKeyedArchiver:,- _o
verrideUseFastBlockObservers,- addObservationTransformer:,- addObserver:,- mutableSetVa
lueForKey:,- _changeValueForKey:usingBlock:,- mutableArrayValueForKey:,- _didEndKeyValu
eObserving,- _implicitObservationInfo,- replacementObjectForArchiver:,- _removeObserver
:forProperty:,- validateValue:forKey:error:,- autoContentAccessingProxy,- observeValueF
orKeyPath:ofObject:change:context:,- _willBeginKeyValueObserving,- mutableOrderedSetVal
ueForKey:,- removeObserver:forKeyPath:context:,- setValue:forKeyPath:,- receiveObserved
Value:,- setValue:forUndefinedKey:,- isNSSet__,- isNSString__,- isNSDate__,- isNSNumber
__,- isNSData__,- isNSObject__,- isNSArray__,- isNSValue__,- isNSTimeZone__,- isNSOrder
edSet__,- isNSDictionary__,- _cfTypeID,- isNSCFConstantString__,- __release_OA,- __reta
in_OA,- _copyDescription,- ___tryRetain_OA,- doesNotRecognizeSelector:,- __dealloc_zomb
ie,- __autorelease_OA,- methodSignatureForSelector:,- bs_secureEncoded,- bs_encoded,- s
upportsBSXPCSecureCoding,- bs_isPlistableType,- NSRepresentation,- RBSIsXPCObject,- sup
portsRBSXPCSecureCoding,- pep_onMainThread,- pep_onThread:,- pep_onThread:immediateForM
atchingThread:,- pep_onOperationQueue:priority:,- pep_onMainThreadIfNecessary,- pep_aft
erDelay:,- pep_onOperationQueue:,- pep_getInvocation:,- isNull,- performSelector:withOb
ject:afterDelay:ignoreMenuTracking:,- __im_afterDelay:,- __im_afterDelay:modes:,- __im_
onThread:,- __im_onMainThread,- __im_onThread:immediateForMatchingThread:,- __im_onMain
ThreadIfNecessary,- __im_onDetachedThread,- __im_getInvocation:,- un_safeBoolValue,- se
lf,- superclass,- performSelector:withObject:,- performSelector:withObject:withObject:,
- performSelector:,- zone,- autorelease,- finalize,- _isDeallocating,- isMemberOfClass:
,- allowsWeakReference,- isEqual:,- isKindOfClass:,- retainWeakReference,- retain,- ret
ainCount,- hash,- forwardingTargetForSelector:,- mutableCopy,- methodForSelector:,- rel
ease,- respondsToSelector:,- _tryRetain,- debugDescription,- conformsToProtocol:,- clas
s,- copy,- forwardInvocation:,- isProxy,- isFault
```

格式化后:

```
+ geo_createGEODaemonToMapsPushDaemonConnection
+ geo_withMapsPushDaemon:errorHandler:
+ beginTransaction
+ endTransaction
+ _handoffCurrentReplyToQueue:block:
+ currentConnection
+ fromPBCodable:
...
```

```
...
...
- respondsToSelector:
- _tryRetain
- debugDescription
- conformsToProtocol:
- class
- copy
- forwardInvocation:
- isProxy
- isFault
```

`AKAppleIDAuthenticationService` 的 `$ownMethods`

代码:

```
const connOwnMethods = argSelfObj.$ownMethods;
console.log("connOwnMethods=", connOwnMethods);
```

输出:

```
connOwnMethods= + geo_createGEODaemonToMapsPushDaemonConnection,+ geo_withMapsPushDaemo
n:errorHandler:,+ beginTransaction,+ endTransaction,+ _handoffCurrentReplyToQueue:block
:,+ currentConnection,- cuValueForEntitlementNoCache:,- uniquify,- hasEntitlement:,- sh
ouldHandleInvalidation,- setShouldHandleInvalidation:,- _EX_transaction,- _EX_setTransa
ction:,- _EX_extensionProcess,- _EX_setExtensionProcess:,- addBarrierBlock:,- serviceNa
me,- initWithMachServiceName:options:,- _sendInvocation:orArguments:count:methodSignatu
re:selector:withProxy:,- setUserInfo:,- setOptions:,- effectiveGroupIdentifier,- setExp
ortedObject:,- remoteObjectProxy,- userInfo,- interruptionHandler,- start,- remoteObjec
tProxyWithTimeout:errorHandler:,- _setQueue:,- _decodeAndInvokeReplyBlockWithEvent:sequ
ence:replyInfo:,- _setUUID:,- initWithMachServiceName:,- invalidate,- exportedObject,-
initWithServiceName:options:,- exportedInterface,- activate,- _xpcConnection,- init,- i
nvalidationHandler,- _queue,- setRemoteObjectInterface:,- _unboostingRemoteObjectProxy,
- setExportedInterface:,- initWithEndpoint:,- synchronousRemoteObjectProxyWithErrorHand
ler:,- _sendSelector:withProxy:arg1:arg2:arg3:arg4:,- _decodeAndInvokeMessageWithEvent:
flags:,- _sendSelector:withProxy:arg1:arg2:arg3:,- _initWithRemoteService:name:options:
mode:,- delegate,- set_additionalInvalidationHandler:,- _initWithRemoteService:name:opt
ions:,- resume,- _setLanguages:,- _decodeProgressMessageWithData:flags:,- remoteObjectP
roxyWithUserInfo:errorHandler:,- valueForEntitlement:,- _pauseProgress:,- initWithServi
ceName:,- auditSessionIdentifier,- setInterruptionHandler:,- setInvalidationHandler:,-
_cancelProgress:,- _resumeProgress:,- _killConnection:,- _sendSelector:withProxy:arg1:a
rg2:,- _errorDescription,- suspend,- stop,- replacementObjectForEncoder:object:,- _send
DesistForProxy:,- remoteObjectProxyWithErrorHandler:,- _initWithRemoteConnection:name:,
- effectiveUserIdentifier,- _additionalInvalidationHandler,- _sendSelector:withProxy:ar
g1:,- _remoteObjectInterfaceClass,- _sendSelector:withProxy:,- _setBootstrapObject:forK
ey:,- scheduleSendBarrierBlock:,- _initWithCustomTransport:,- auditToken,- _setTargetUs
erIdentifier:,- remoteObjectInterface,- setDelegate:,- description,- initWithListenerEn
dpoint:,- dealloc,- processIdentifier,- endpoint
```

格式化后:

```
+ geo_createGEODaemonToMapsPushDaemonConnection
```

```
+ geo_withMapsPushDaemon:errorHandler:
+ beginTransaction
+ endTransaction
+ _handoffCurrentReplyToQueue:block:
+ currentConnection
- cuValueForEntitlementNoCache:
- uniquify
- hasEntitlement:
- shouldHandleInvalidation
- setShouldHandleInvalidation:
- _EX_transaction
- _EX_setTransaction:
- _EX_extensionProcess
- _EX_setExtensionProcess:
- addBarrierBlock:
- serviceName
- initWithMachServiceName:options:
- _sendInvocation:orArguments:count:methodSignature:selector:withProxy:
- setUserInfo:
- setOptions:
- effectiveGroupIdentifier
- setExportedObject:
- remoteObjectProxy
- userInfo
- interruptionHandler
- start
- remoteObjectProxyWithTimeout:errorHandler:
- _setQueue:
- _decodeAndInvokeReplyBlockWithEvent:sequence:replyInfo:
- _setUUID:
- initWithMachServiceName:
- invalidate
- exportedObject
- initWithServiceName:options:
- exportedInterface
- activate
- _xpcConnection
- init
- invalidationHandler
- _queue
- setRemoteObjectInterface:
- _unboostingRemoteObjectProxy
- setExportedInterface:
- initWithEndpoint:
- synchronousRemoteObjectProxyWithErrorHandler:
- _sendSelector:withProxy:arg1:arg2:arg3:arg4:
- _decodeAndInvokeMessageWithEvent:flags:
- _sendSelector:withProxy:arg1:arg2:arg3:
- _initWithRemoteService:name:options:mode:
- delegate
- set_additionalInvalidationHandler:
- _initWithRemoteService:name:options:
- resume
- _setLanguages:
- _decodeProgressMessageWithData:flags:
- remoteObjectProxyWithUserInfo:errorHandler:
```

```
- valueForEntitlement:
- _pauseProgress:
- initWithServiceName:
- auditSessionIdentifier
- setInterruptionHandler:
- setInvalidationHandler:
- _cancelProgress:
- _resumeProgress:
- _killConnection:
- _sendSelector:withProxy:arg1:arg2:
- _errorDescription
- suspend
- stop
- replacementObjectForEncoder:object:
- _sendDesistForProxy:
- remoteObjectProxyWithErrorHandler:
- _initWithRemoteConnection:name:
- effectiveUserIdentifier
- _additionalInvalidationHandler
- _sendSelector:withProxy:arg1:
- _remoteObjectInterfaceClass
- _sendSelector:withProxy:
- _setBootstrapObject:forKey:
- scheduleSendBarrierBlock:
- _initWithCustomTransport:
- auditToken
- _setTargetUserIdentifier:
- remoteObjectInterface
- setDelegate:
- description
- initWithListenerEndpoint:
- dealloc
- processIdentifier
- endpoint
```

其中：

- NSXPCConnection
  - 没有之前Xcode调试所看到的属性
    - processName
    - processBundleIdentifier
  - 不过有我们所重点关注的其他的属性
    - exportedInterface
    - exportedObject
    - remoteObjectInterface
    - remoteObjectProxy
    - auditSessionIdentifier
    - effectiveUserIdentifier
    - effectiveGroupIdentifier
    - userInfo

-》实现了我们通过 `$methods` 和 `$ownMethods` 去调试 `NSXPCConnection` 类的属性值，找到我们所关注的属性值

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Interceptor=hook函数

此处去介绍如何用Frida的Interceptor去hook拦截iOS的ObjC的函数的实际案例。

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单个类的单个函数

Frida去hook调试ObjC函数：`-[NSXPCConnection setExportedObject:]`

- 背景

调试iPhone中的，`设置` app中点击Apple账号登录的过程，内部会触发akd进程中的 `iOS` 的 `ObjC` 函数：`-[NSXPCConnection setExportedObject:]`

此处去写frida的js脚本，去调试hook，打印参数值

涉及到的操作iPhone中的app的页面有：

无SIM卡
上午12:46
100%
取消
下一步
Apple ID
使用Apple ID登录以使用iCloud和其他Apple服务。
Apple ID
电子邮件或电话
没有或忘记Apple ID?
Apple ID是您用于访问所有Apple服务的帐户。iCloud使用无线数据。
您的Apple ID信息用于登录时启用Apple服务，其中包括iCloud云备份，该服务可自动备份设备上的数据，以便需要时进行替换或恢复。您的设备序列号可能被用于检查服务的使用资格。 了解数据的管理方式...

最基础的，hook类的函数，只是打印参数值

- 适用场景：确定要hook的类和函数是：能找到的=是存在的 -》代码才能正确hook，否则会报错找不到
  - 写法：直接把 `类名` 和 `函数名` 放到 `ObjC.classes` 的后面
  - 代码

```
const curMethod = ObjC.classes.NSXPCConnection["- setExportedObject:"];
// console.log("curMethod: ", curMethod);
// const iOSObjCallStr = "-[NSXPCConnection setExportedObject:]";

      Interceptor.attach(curMethod.implementation, {
        onEnter: function(args) {
          // console.log("==================== " + iOSObjCallStr + " ==========
==========");
          console.log("argSelf=" + args[0] + ", argSel=" + args[1] + ", realArg
1=" + args[2]);
```

```
        }
      });
```

- 适用场景：要hook的类和函数，不确定是否存在，所以加上判断
  - 写法：传入 `类名` 和 `函数名` ，先去查找在不在，找到后，才hook
  - 代码

```
// https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-sc
ripts/hook-specific-method-of-class.js
function hook_specific_method_of_class(className, funcName)
{
  // console.log("className=" + className + ", funcName=" + funcName)
  var curClass = ObjC.classes[className];
  if (typeof(curClass) !== 'undefined') {
    var curMethod = curClass[funcName];
    if (typeof(curMethod) !== 'undefined') {
      Interceptor.attach(curMethod.implementation, {
        onEnter: function(args) {
          console.log("argSelf=" + args[0] + ", argSel=" + args[1] + ", realArg
1=" + args[2]);
        }
      });
    }else{
      console.log("Can't find method", funcName);
    }
  }else{
    console.log("Can't find class: ", className);
  }
}

//Your class name  and function name here
hook_specific_method_of_class("NSXPCConnection", "- setExportedObject:")
```

典型输出log：

```
➜  scripts frida -U -n akd -l hook_NSXPCConnection_setExportedObject.js
     ____
    / _  |   Frida 16.0.19 - A world class dynamic instrumentation toolkit
   | (_| |
    > _  |   Commands:
   /_/ |_|       help      -> Displays the help system
   . . . .       object    -> Display information about 'object'
   . . . .       exit quit -> Exit
   . . . .
   . . . .   More info at https://frida.re/docs/home/
   . . . .
   . . . .   Connected to iPhone (id abdc0dd961c3cb96f5c4afe109de4eb48b88433a)

[iPhone::akd ]-> %resume

...

==================== [NSXPCConnection setExportedObject:] ====================
```

```
argSelf: 0x102725ce0, argSel: 0x19b362b44, realArg1: 0x102926640
==================== -[NSXPCConnection setExportedObject:] ====================
argSelf: 0x102928300, argSel: 0x19b362b44, realArg1: 0x1029211b0
==================== -[NSXPCConnection setExportedObject:] ====================
argSelf: 0x102725ce0, argSel: 0x19b362b44, realArg1: 0x0
==================== -[NSXPCConnection setExportedObject:] ====================
argSelf: 0x102a21570, argSel: 0x19b362b44, realArg1: 0x0
```

简单优化：加上额外的参数的转换和打印相关值

再去加上额外的，参数类型转换

- 把常见参数转换成ObjC的Object
- 把ObjC的SEL转换成String
- 等等

对应代码是：

```
function hook_specific_method_of_class(className, funcName)
{
  var iOSObjCallStr = "className=" + className + ", funcName=" + funcName
  console.log("iOSObjCallStr=", iOSObjCallStr)
  var curClass = ObjC.classes[className];
  if (typeof(curClass) !== 'undefined') {
    var curMethod = curClass[funcName];
    if (typeof(curMethod) !== 'undefined') {

      Interceptor.attach(curMethod.implementation, {
        onEnter: function(args) {
          console.log("==================== " + iOSObjCallStr + " ====================")
;
          // args[0] is self = id
          const argSelf = args[0];
          console.log("argSelf: ", argSelf);
          const argSelfObj = new ObjC.Object(argSelf);
          console.log("argSelfObj: ", argSelfObj);
          const argSelfClassName = argSelfObj.$className;
          console.log("argSelfClassName: ", argSelfClassName);

          // args[1] is selector
          const argSel = args[1];
          console.log("argSel: ", argSel);
          const argSelStr = ObjC.selectorAsString(argSel);
          console.log("argSelStr: ", argSelStr);

            // args[2] holds the first function argument
            const args2 = args[2];
            console.log("args2: ", args2);
            if (args2 != 0x0) {
              const args2Obj = new ObjC.Object(args2);
              // const args2Obj = new ObjC.Object(ptr(args2));
              console.log("args2Obj: ", args2Obj);
              const args2ObjClassName = args2Obj.$className;
              console.log("args2ObjClassName: ", args2ObjClassName);
```

```
                const args2ObjStr = args2Obj.toString();
                console.log("args2ObjStr: ", args2ObjStr);
              }
          }
        });
      }else{
        console.log("Can't find method", funcName);
      }
    }else{
      console.log("Can't find class: ", className);
    }
  }

  //Your class name  and function name here
  hook_specific_method_of_class("NSXPCConnection", "- setExportedObject:")
```

优化日志：把Frida类名和函数名转换为ObjC的类名和函数名

可以继续去加上：

- `toiOSObjcCall`
  - 作用举例
    - 输入： `["NSXPCConnection", "- setExportedObject:"]`
    - 输出： `"-[NSXPCConnection setExportedObject:]"`
- 目的：实现优化日志打印
  - 输出的ObjC的类和函数名 -》 方便调试和查看具体调用了哪个ObjC的类和函数

代码：

```
// convert from frida function call to ObjC function call
// "NSURL", "- initWithString:" => "-[NSURL initWithString:]"
function toiOSObjcCall(class_name, method_name){
    const instanceCallStart = "-[" + class_name + " ";
    const classCallStart = "+[" + class_name + " ";
    var objcFuncCall = method_name.replace("- ", instanceCallStart);
    objcFuncCall = objcFuncCall.replace("+ ", classCallStart);
    objcFuncCall = objcFuncCall + "]";
    // console.log(class_name + " -> " + method_name + " => " + objcFuncCall);
    return objcFuncCall;
}

function hook_specific_method_of_class(className, funcName)
{
  var iOSObjCallStr = toiOSObjcCall(className, funcName)
  console.log("iOSObjCallStr=", iOSObjCallStr)
  var curClass = ObjC.classes[className];
  if (typeof(curClass) !== 'undefined') {
    var curMethod = curClass[funcName];
    if (typeof(curMethod) !== 'undefined') {

      Interceptor.attach(curMethod.implementation, {
```

```
        onEnter: function(args) {
          console.log("==================== " + iOSObjCallStr + " ====================")
;
          // args[0] is self = id
          const argSelf = args[0];
          console.log("argSelf: ", argSelf);
          const argSelfObj = new ObjC.Object(argSelf);
          console.log("argSelfObj: ", argSelfObj);
          const argSelfClassName = argSelfObj.$className;
          console.log("argSelfClassName: ", argSelfClassName);

          // args[1] is selector
          const argSel = args[1];
          console.log("argSel: ", argSel);
          const argSelStr = ObjC.selectorAsString(argSel);
          console.log("argSelStr: ", argSelStr);

            // args[2] holds the first function argument
            const args2 = args[2];
            console.log("args2: ", args2);
            if (args2 != 0x0) {
              const args2Obj = new ObjC.Object(args2);
              // const args2Obj = new ObjC.Object(ptr(args2));
              console.log("args2Obj: ", args2Obj);
              const args2ObjClassName = args2Obj.$className;
              console.log("args2ObjClassName: ", args2ObjClassName);
              const args2ObjStr = args2Obj.toString();
              console.log("args2ObjStr: ", args2ObjStr);
            }
        }
      });
    }else{
      console.log("Can't find method", funcName);
    }
  }else{
    console.log("Can't find class: ", className);
  }
}

//Your class name  and function name here
hook_specific_method_of_class("NSXPCConnection", "- setExportedObject:")
```

优化参数：打印函数全部的真正参数

如之前 ObjC的参数 中的 `计算ObjC的函数的真正参数的个数 + 打印全部参数` 的实例代码，加到此处，略作调整变成：

```
/*****************************************************************************
* Util Functions
*****************************************************************************/

/** Function that count occurrences of a substring in a string;
 * @param {String} string               The string
```

```
 * @param {String} subString            The sub string to search for
 * @param {Boolean} [allowOverlapping]  Optional. (Default:false)
 *
 * @author Vitim.us https://gist.github.com/victornpb/7736865
 * @see Unit Test https://jsfiddle.net/Victornpb/5axuh96u/
 * @see https://stackoverflow.com/a/7924240/938822
 * @example occurrences("- setExportedObject:", ":") => 1
 */
function occurrences(string, subString, allowOverlapping) {
    // console.log("string=" + string + ",subString=" + subString + ", allowOverlapping
=" + allowOverlapping)
    string += "";
    subString += "";
    if (subString.length <= 0) return (string.length + 1);

    var n = 0,
        pos = 0,
        step = allowOverlapping ? 1 : subString.length;

    while (true) {
        pos = string.indexOf(subString, pos);
        // console.log("pos=" + pos)
        if (pos >= 0) {
            ++n;
            pos += step;
        } else break;
    }

    return n;
}

// convert from frida function call to ObjC function call
// "NSURL", "- initWithString:" => "-[NSURL initWithString:]"
function toiOSObjcCall(class_name, method_name){
    const instanceCallStart = "-[" + class_name + " ";
    const classCallStart = "+[" + class_name + " ";
    var objcFuncCall = method_name.replace("- ", instanceCallStart);
    objcFuncCall = objcFuncCall.replace("+ ", classCallStart);
    objcFuncCall = objcFuncCall + "]";
    // console.log(class_name + " -> " + method_name + " => " + objcFuncCall);
    return objcFuncCall;
}

/*****************************************************************************
* Frida Hook
*****************************************************************************/

// https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/ho
ok-specific-method-of-class.js
function hook_specific_method_of_class(className, funcName)
{
  var iOSObjCallStr = toiOSObjcCall(className, funcName)
  console.log("iOSObjCallStr=", iOSObjCallStr)
  var curClass = ObjC.classes[className];
  if (typeof(curClass) !== 'undefined') {
    var curMethod = curClass[funcName];
```

```
    if (typeof(curMethod) !== 'undefined') {

      Interceptor.attach(curMethod.implementation, {
        onEnter: function(args) {
          console.log("==================== " + iOSObjCallStr + " ====================")
;


          // args[0] is self = id
          const argSelf = args[0];
          console.log("argSelf: ", argSelf);
          const argSelfObj = new ObjC.Object(argSelf);
          console.log("argSelfObj: ", argSelfObj);
          const argSelfClassName = argSelfObj.$className;
          console.log("argSelfClassName: ", argSelfClassName);

          // args[1] is selector
          const argSel = args[1];
          console.log("argSel: ", argSel);
          const argSelStr = ObjC.selectorAsString(argSel);
          console.log("argSelStr: ", argSelStr);

          const argCount = occurrences(argSelStr, ":");
          console.log("argCount: ", argCount);

          // console.log("funcName=", funcName);
          // const argCount = occurrences(funcName, ":");
          // console.log("argCount: ", argCount);

          for (let curArgIdx = 0; curArgIdx < argCount; curArgIdx++) {
            const curArg = args[curArgIdx + 2];

            // const usePtr = false;
            const usePtr = true;
            if (usePtr) {
              // console.log("usePtr=", usePtr);
              const curArgPtr = ptr(curArg);
              console.log("---------- [" + curArgIdx + "] curArgPtr=" + curArgPtr);
              if (!curArgPtr.isNull()) {
                const curArgPtrObj = new ObjC.Object(curArgPtr);
                console.log("curArgPtrObj: ", curArgPtrObj);
                console.log("curArgPtrObj className: ", curArgPtrObj.$className);
                console.log("curArgPtrObj kind: ", curArgPtrObj.$kind);
              }
            } else {
              console.log("---------- [" + curArgIdx + "] curArg=" + curArg);
              if (curArg && (curArg != 0x0)) {
                // console.log("curArg className: ", curArg.$className);
                const curArgObj = new ObjC.Object(curArg);
                console.log("curArgObj: ", curArgObj);
                console.log("curArgObj className: ", curArgObj.$className);
                console.log("curArgObj kind: ", curArgObj.$kind);
              }
            }
          }

        }
```

```
      });
    }else{
      console.log("Can't find method", funcName);
    }
  }else{
    console.log("Can't find class: ", className);
  }
}

//Your class name  and function name here
hook_specific_method_of_class("NSXPCConnection", "- setExportedObject:")
```

典型log输出：

```
==================== -[NSXPCConnection setExportedObject:] ====================
argSelf:  0x1057047a0
argSelfObj:  <NSXPCConnection: 0x1057047a0> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
argSelfClassName:  NSXPCConnection
argSel:  0x19b362b44
argSelStr:  setExportedObject:
funcName= - setExportedObject:
argCount:  1
---------- [0] curArgPtr=0x105743aa0
curArgPtrObj:  <AKAppleIDAuthenticationService: 0x105743aa0>
curArgPtrObj className:  AKAppleIDAuthenticationService
curArgPtrObj kind:  instance
==================== -[NSXPCConnection setExportedObject:] ====================
argSelf:  0x1057047a0
argSelfObj:  <NSXPCConnection: 0x1057047a0> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
argSelfClassName:  NSXPCConnection
argSel:  0x19b362b44
argSelStr:  setExportedObject:
argCount:  1
---------- [0] curArgPtr=0x0
```

- 关于argCount的计算

另外，计算 `argCount` 的代码，如果从：

```
        const argCount = occurrences(argSelStr, ":");
        console.log("argCount: ", argCount);

        // console.log("funcName=", funcName);
        // const argCount = occurrences(funcName, ":");
        // console.log("argCount: ", argCount);
```

换成：

```
        // const argCount = occurrences(argSelStr, ":");
        // console.log("argCount: ", argCount);
```

```
        console.log("funcName=", funcName);
        const argCount = occurrences(funcName, ":");
        console.log("argCount: ", argCount);
```

则对应部分输出从：

```
argSelStr:  setExportedObject:
argCount:  1
```

变成：

```
argSelStr:  setExportedObject:
funcName= - setExportedObject:
argCount:  1
```

优化逻辑：加上参数值的判断和过滤

如果此处需要有类似于，过滤参数的值，判断参数的值，并且过滤只输出对应值，则可以去：

- 把ObjC的NSString转换成js的String
- 然后再去用 `===` 去对比判断字符串

完整代码：

```
/*****************************************************************************
* Util Functions
*****************************************************************************/

// convert from frida function call to ObjC function call
// "NSURL", "- initWithString:" => "-[NSURL initWithString:]"
function toiOSObjcCall(class_name, method_name){
    const instanceCallStart = "-[" + class_name + " ";
    const classCallStart = "+[" + class_name + " ";
    var objcFuncCall = method_name.replace("- ", instanceCallStart);
    objcFuncCall = objcFuncCall.replace("+ ", classCallStart);
    objcFuncCall = objcFuncCall + "]";
    // console.log(class_name + " -> " + method_name + " => " + objcFuncCall);
    return objcFuncCall;
}

/*****************************************************************************
* Frida Hook
*****************************************************************************/

// https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/ho
ok-specific-method-of-class.js
function hook_specific_method_of_class(className, funcName)
{
  var iOSObjCallStr = toiOSObjcCall(className, funcName)
  console.log("iOSObjCallStr=", iOSObjCallStr)
  var curClass = ObjC.classes[className];
```

```
  if (typeof(curClass) !== 'undefined') {
    var curMethod = curClass[funcName];
    if (typeof(curMethod) !== 'undefined') {

      Interceptor.attach(curMethod.implementation, {
        onEnter: function(args) {
          console.log("==================== " + iOSObjCallStr + " ====================")
;

          // args[0] is self = id
          const argSelf = args[0];
          console.log("argSelf: ", argSelf);
          const argSelfObj = new ObjC.Object(argSelf);
          console.log("argSelfObj: ", argSelfObj);
          const argSelfClassName = argSelfObj.$className;
          console.log("argSelfClassName: ", argSelfClassName);

          const connnServiceNameNSStr = argSelfObj.serviceName();
          const connnServiceNameJsStr = connnServiceNameNSStr.UTF8String()

          // args[1] is selector
          const argSel = args[1];
          console.log("argSel: ", argSel);
          const argSelStr = ObjC.selectorAsString(argSel);
          console.log("argSelStr: ", argSelStr);

          if (connnServiceNameJsStr === "com.apple.ak.auth.xpc") {
            console.log("connnServiceNameNSStr: ", connnServiceNameNSStr);
            console.log("connnServiceNameJsStr: ", connnServiceNameJsStr);

            // args[2] holds the first function argument
            const args2 = args[2];
            console.log("args2: ", args2);
            if (args2 != 0x0) {
              const args2Obj = new ObjC.Object(args2);
              // const args2Obj = new ObjC.Object(ptr(args2));
              console.log("args2Obj: ", args2Obj);
              const args2ObjClassName = args2Obj.$className;
              console.log("args2ObjClassName: ", args2ObjClassName);
              const args2ObjStr = args2Obj.toString();
              console.log("args2ObjStr: ", args2ObjStr);
            }

          }

        }
      });
    }else{
      console.log("Can't find method", funcName);
    }
  }else{
    console.log("Can't find class: ", className);
  }
}

//Your class name  and function name here
```

```
hook_specific_method_of_class("NSXPCConnection", "- setExportedObject:")
```

典型log输出：

```
===================== -[NSXPCConnection setExportedObject:] =====================
argSelf:  0x1057047a0
argSelfObj:  <NSXPCConnection: 0x1057047a0> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
argSelfClassName:  NSXPCConnection
argSel:  0x19b362b44
argSelStr:  setExportedObject:
argCount:  1
connnServiceNameNSStr:  com.apple.ak.auth.xpc
connnServiceNameJsStr:  com.apple.ak.auth.xpc
args2:  0x105743aa0
args2Obj:  <AKAppleIDAuthenticationService: 0x105743aa0>
args2ObjClassName:  AKAppleIDAuthenticationService
args2ObjStr:  <AKAppleIDAuthenticationService: 0x105743aa0>
===================== -[NSXPCConnection setExportedObject:] =====================
argSelf:  0x1057047a0
argSelfObj:  <NSXPCConnection: 0x1057047a0> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
argSelfClassName:  NSXPCConnection
argSel:  0x19b362b44
argSelStr:  setExportedObject:
argCount:  1
connnServiceNameNSStr:  com.apple.ak.auth.xpc
connnServiceNameJsStr:  com.apple.ak.auth.xpc
args2:  0x0
```

即：

只打印 `serviceName` 是 `com.apple.ak.auth.xpc` 的 `NSXPCConnection`，过滤掉其他的，比如之前会打印的：

```
===================== -[NSXPCConnection setExportedObject:] =====================
argSelf:  0x102d35b60
argSelfObj:  <NSXPCConnection: 0x102d35b60> connection from pid 46847 on mach service n
amed com.apple.ak.anisette.xpc
connnServiceName:  com.apple.ak.anisette.xpc
argSelfClassName:  NSXPCConnection
args2:  0x0

===================== -[NSXPCConnection setExportedObject:] =====================
argSelf:  0x102d34e00
argSelfObj:  <NSXPCConnection: 0x102d34e00> connection from pid 31901 on mach service n
amed com.apple.ak.authorizationservices.xpc
connnServiceName:  com.apple.ak.authorizationservices.xpc
argSelfClassName:  NSXPCConnection
args2:  0x102d513c0
args2Obj:  <AKAuthorizationDaemonService: 0x102d513c0>
args2ObjClassName:  AKAuthorizationDaemonService
args2ObjStr:  <AKAuthorizationDaemonService: 0x102d513c0>
```

```
==================== -[NSXPCConnection setExportedObject:] ====================
argSelf:  0x102d35a30
argSelfObj:  <ACTrackedXPCConnection: 0x102d35a30> connection to service with pid 104 n
amed com.apple.accountsd.accountmanager
connnServiceName:  com.apple.accountsd.accountmanager
argSelfClassName:  ACTrackedXPCConnection
args2:  0x0
```

等内容。

最终代码

```
/*****************************************************************************
* Util Functions
*****************************************************************************/

/** Function that count occurrences of a substring in a string;
 * @param {String} string               The string
 * @param {String} subString            The sub string to search for
 * @param {Boolean} [allowOverlapping]  Optional. (Default:false)
 *
 * @author Vitim.us https://gist.github.com/victornpb/7736865
 * @see Unit Test https://jsfiddle.net/Victornpb/5axuh96u/
 * @see https://stackoverflow.com/a/7924240/938822
 * @example occurrences("- setExportedObject:", ":") => 1
 */
function occurrences(string, subString, allowOverlapping) {
    // console.log("string=" + string + ",subString=" + subString + ", allowOverlapping
=" + allowOverlapping)
    string += "";
    subString += "";
    if (subString.length <= 0) return (string.length + 1);

    var n = 0,
        pos = 0,
        step = allowOverlapping ? 1 : subString.length;

    while (true) {
        pos = string.indexOf(subString, pos);
        // console.log("pos=" + pos)
        if (pos >= 0) {
            ++n;
            pos += step;
        } else break;
    }

    return n;
}

// convert from frida function call to ObjC function call
// "NSURL", "- initWithString:" => "-[NSURL initWithString:]"
function toiOSObjcCall(class_name, method_name){
    const instanceCallStart = "-[" + class_name + " ";
```

```
    const classCallStart = "+[" + class_name + " ";
    var objcFuncCall = method_name.replace("- ", instanceCallStart);
    objcFuncCall = objcFuncCall.replace("+ ", classCallStart);
    objcFuncCall = objcFuncCall + "]";
    // console.log(class_name + " -> " + method_name + " => " + objcFuncCall);
    return objcFuncCall;
}

// convert from ObjC function call to frida function call
// "-[NSURL initWithString:]" => ["NSURL", "- initWithString:"]
function toFridaObjcCall(fridaObjcCallStr){
    // console.log("fridaObjcCallStr=" + fridaObjcCallStr)
    const funcCallP = /^([+-])\[(\w+)\s+([\w:]+)\]$/
    // console.log("funcCallP=" + funcCallP)
    const funcCallMatch = fridaObjcCallStr.match(funcCallP)
    // console.log("funcCallMatch=" + funcCallMatch)
    const objcFuncTypeChar = funcCallMatch[1]
    const objcClassName = funcCallMatch[2]
    const objcFuncName = funcCallMatch[3]
    const fridaFuncCallList = [objcClassName, objcFuncTypeChar + " " + objcFuncName]
    // console.log("fridaFuncCallList=" + fridaFuncCallList)
    return fridaFuncCallList
}

// NSString instance -> js string
function nsStrToJsStr(curNsStr){
  // method 1
  return curNsStr.UTF8String()
  // // method 2:
  // const NSUTF8StringEncoding = 4;
  // https://developer.apple.com/documentation/foundation/nsstring/1408489-cstringusing
encoding?language=objc
  // return curNsStr.cStringUsingEncoding_(NSUTF8StringEncoding)
}

/*****************************************************************************
* Frida Hook
*****************************************************************************/

// Note: Another write type for for sure can found class and method
// const curMethod = ObjC.classes.NSXPCConnection["- setExportedObject:"];
// console.log("curMethod: ", curMethod);
// const iOSObjCallStr = "-[NSXPCConnection setExportedObject:]";

// https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/ho
ok-specific-method-of-class.js
function hook_specific_method_of_class(className, funcName)
{
  // var iOSObjCallStr = "className=" + className + ", funcName=" + funcName
  var iOSObjCallStr = toiOSObjcCall(className, funcName)
  console.log("iOSObjCallStr=", iOSObjCallStr)
  var curClass = ObjC.classes[className];
  if (typeof(curClass) !== 'undefined') {
    var curMethod = curClass[funcName];
    if (typeof(curMethod) !== 'undefined') {
```

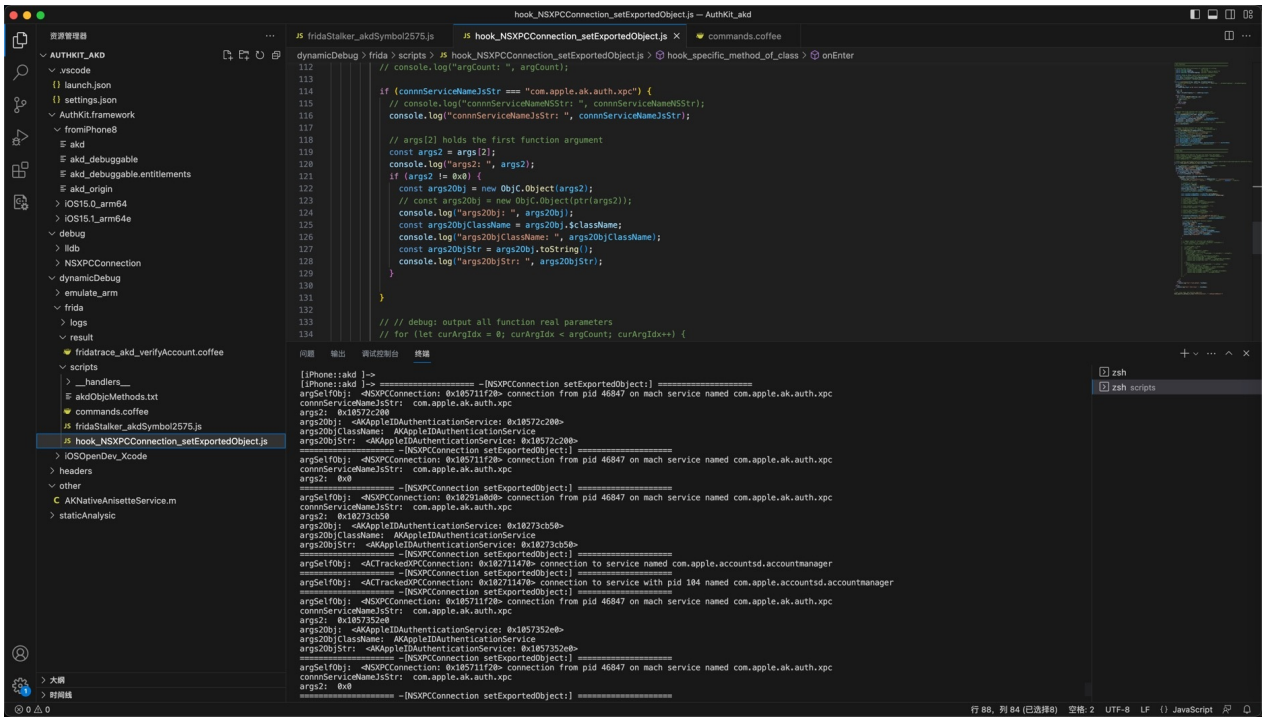
```
      Interceptor.attach(curMethod.implementation, {
        onEnter: function(args) {
          console.log("==================== " + iOSObjCallStr + " ====================")
;
          // console.log("argSelf=" + args[0] + ", argSel=" + args[1] + ", realArg1=" +
 args[2]);

          // args[0] is self = id
          const argSelf = args[0];
          // console.log("argSelf: ", argSelf);
          const argSelfObj = new ObjC.Object(argSelf);
          console.log("argSelfObj: ", argSelfObj);
          const argSelfClassName = argSelfObj.$className;
          // console.log("argSelfClassName: ", argSelfClassName);

          const connnServiceNameNSStr = argSelfObj.serviceName();
          // const connnServiceNameJsStr = connnServiceNameNSStr.UTF8String()
          const connnServiceNameJsStr = nsStrToJsStr(connnServiceNameNSStr)

          // // args[1] is selector
          // const argSel = args[1];
          // console.log("argSel: ", argSel);
          // const argSelStr = ObjC.selectorAsString(argSel);
          // console.log("argSelStr: ", argSelStr);

          // const argCount = occurrences(argSelStr, ":");
          // console.log("argCount: ", argCount);

          // console.log("funcName=", funcName);
          // const argCount = occurrences(funcName, ":");
          // console.log("argCount: ", argCount);

          if (connnServiceNameJsStr === "com.apple.ak.auth.xpc") {
            // console.log("connnServiceNameNSStr: ", connnServiceNameNSStr);
            console.log("connnServiceNameJsStr: ", connnServiceNameJsStr);

            // args[2] holds the first function argument
            const args2 = args[2];
            console.log("args2: ", args2);
            if (args2 != 0x0) {
              const args2Obj = new ObjC.Object(args2);
              // const args2Obj = new ObjC.Object(ptr(args2));
              console.log("args2Obj: ", args2Obj);
              const args2ObjClassName = args2Obj.$className;
              console.log("args2ObjClassName: ", args2ObjClassName);
              const args2ObjStr = args2Obj.toString();
              console.log("args2ObjStr: ", args2ObjStr);
            }

          }

          // // debug: output all function real parameters
          // for (let curArgIdx = 0; curArgIdx < argCount; curArgIdx++) {
          //   const curArg = args[curArgIdx + 2];

          //   // const usePtr = false;
```

```
          //   const usePtr = true;
          //   if (usePtr) {
          //     // console.log("usePtr=", usePtr);
          //     const curArgPtr = ptr(curArg);
          //     console.log("---------- [" + curArgIdx + "] curArgPtr=" + curArgPtr);
          //     if (!curArgPtr.isNull()) {
          //       const curArgPtrObj = new ObjC.Object(curArgPtr);
          //       console.log("curArgPtrObj: ", curArgPtrObj);
          //       console.log("curArgPtrObj className: ", curArgPtrObj.$className);
          //       console.log("curArgPtrObj kind: ", curArgPtrObj.$kind);
          //     }
          //   } else {
          //     console.log("---------- [" + curArgIdx + "] curArg=" + curArg);
          //     if (curArg && (curArg != 0x0)) {
          //       // console.log("curArg className: ", curArg.$className);
          //       const curArgObj = new ObjC.Object(curArg);
          //       console.log("curArgObj: ", curArgObj);
          //       console.log("curArgObj className: ", curArgObj.$className);
          //       console.log("curArgObj kind: ", curArgObj.$kind);
          //     }
          //   }
          // }

        }
      });
    }else{
      console.log("Can't find method", funcName);
    }
  }else{
    console.log("Can't find class: ", className);
  }
}

//Your class name  and function name here
hook_specific_method_of_class("NSXPCConnection", "- setExportedObject:")
```

输出log：

```
===================- [NSXPCConnection setExportedObject:] ===================
argSelfObj:  <NSXPCConnection: 0x105711f20> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
connnServiceNameJsStr:  com.apple.ak.auth.xpc
args2:  0x10572c200
args2Obj:  <AKAppleIDAuthenticationService: 0x10572c200>
args2ObjClassName:  AKAppleIDAuthenticationService
args2ObjStr:  <AKAppleIDAuthenticationService: 0x10572c200>
===================- [NSXPCConnection setExportedObject:] ===================
argSelfObj:  <NSXPCConnection: 0x105711f20> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
connnServiceNameJsStr:  com.apple.ak.auth.xpc
args2:  0x0
===================- [NSXPCConnection setExportedObject:] ===================
argSelfObj:  <NSXPCConnection: 0x10291a0d0> connection from pid 46847 on mach service n
amed com.apple.ak.auth.xpc
```

```
connnServiceNameJsStr:  com.apple.ak.auth.xpc
args2:  0x10273cb50
args2Obj:   AKAppleIDAuthenticationService: 0x10273cb50>
args2ObjClassName:  AKAppleIDAuthenticationService
args2ObjStr:   AKAppleIDAuthenticationService: 0x10273cb50>
====================  -[NSXPCConnection setExportedObject:]  ====================
argSelfObj:   ACTrackedXPCConnection: 0x102711470>  connection to service named com.appl
e.accountsd.accountmanager
====================  -[NSXPCConnection setExportedObject:]  ====================
argSelfObj:   ACTrackedXPCConnection: 0x102711470>  connection to service with pid 104 n
amed com.apple.accountsd.accountmanager
```



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单个类的所有函数

hook类 `AAUISignInViewController` 的所有函数

Frida命令

```
frida -U -F -p 18533 -l ./hookAccountLogin_Interceptor.js
```

js文件 `hookAccountLogin_Interceptor.js` 内容

```
// https://raw.githubusercontent.com/noobpk/frida-ios-hook/master/frida-ios-hook/frida-scripts/hook-all-methods-of-specific-class.js
function hook_class_method(class_name, method_name)
{
    var hook = ObjC.classes[class_name][method_name];
        Interceptor.attach(hook.implementation, {
            onEnter: function(args) {
            console.log("[*] Detected call to: " + class_name + " -> " + method_name);
        }
    });
}

function run_hook_all_methods_of_specific_class(className_arg)
{
    console.log("[*] Started: Hook all methods of a specific class");
    console.log("[+] Class Name: " + className_arg);
    //Your class name here
    var className = className_arg;
    //var methods = ObjC.classes[className].$methods;
    var methods = ObjC.classes[className].$ownMethods;
    for (var i = 0; i < methods.length; i++)
    {
        console.log("  " + methods[i]);
        // console.log("\t[*] Hooking into implementation");
        //eval('var className2 = "'+className+'"; var funcName2 = "'+methods[i]+'"; var hook = eval(\'ObjC.classes.\'+className2+\'["\'+funcName2+\'"]\'); Interceptor.attach(hook.implementation, {   onEnter: function(args) {    console.log("[*] Detected call to: " + className2 + " -> " + funcName2);  } });');
        var className2 = className;
        var funcName2 = methods[i];
        hook_class_method(className2, funcName2);
        // console.log("\t[*] Hooking successful");
    }
    console.log("[*] Completed: Hook all methods of a specific class");
}

function hook_all_methods_of_specific_class(className_arg)
{
    setImmediate(run_hook_all_methods_of_specific_class,[className_arg])
}
```

```
//Your class name goes here
hook_all_methods_of_specific_class("AAUISignInViewController")
```

输出

最开始输出：

```
✘ crifan licrifandeMacBook Pro~ ~/dev/dev_root/iosReverse/AppleStore/Preferences_app/dy
namicDebug/frida~/frida -U -F -l ./hookAccountLogin_Interceptor.js -p 18533
     ____
    / _  |   Frida 16.0.10 - A world class dynamic instrumentation toolkit
   | (_| |
    > _  |   Commands:
   /_/ |_|       help      -> Displays the help system
   . . . .       object    -> Display information about 'object'
   . . . .       exit/quit -> Exit
   . . . .
   . . . .   More info at https://frida.re/docs/home/
   . . . .
   . . . .   Connected to iPhone (id=abdc0dd961c3cb96f5c4afe109de4eb48b88433a)
Attaching...
[*] Started: Hook all methods of a specific class
[+] Class Name: AAUISignInViewController
  + phoneNumberSupportedWithCompletion:
  - textField:shouldChangeCharactersInRange:replacementString:
  - tableView:viewForHeaderInSection:
  - textFieldShouldReturn:
  - _keyboardWillHide:
  - titleLabel
  - _keyboardWillShow:
  - loadView
  - setUsername:
  - sizeCategoryDidChange:
  - _hasValidCredentials
  - username
  - tableView:numberOfRowsInSection:
  - viewDidLoad
  - _tableView
  - delegate
  - authenticationContext
  - _setEnabled:
  - _tableFooterView
  - viewWillAppear:
  - tableView:willDisplayCell:forRowAtIndexPath:
  - remoteUIController:shouldLoadRequest:redirectResponse:
  - .cxx_destruct
  - numberOfSectionsInTableView:
  - viewDidDisappear:
  - traitCollectionDidChange:
  - initWithCoder:
  - tableView:heightForRowAtIndexPath:
  - tableView:viewForFooterInSection:
  - tableView:cellForRowAtIndexPath:
```

```
- setDelegate
- _tableHeaderView
- tableView shouldDrawTopSeparatorForSection
- messageLabel
- initWithNibName bundle
- dealloc
- _cancelBarButtonItem
- viewDidLayoutSubviews
- _cancelPasswordDelegateIfNecessary
- context needsPasswordWithCompletion
- _passwordCell
- _textFieldDidChange
- _nextBarButtonItem
- _updateConstraintsForTraitCollection
- _beginObservingTextFieldDidChangeNotifications
- _beginObservingKeyboardWillShowNotifications
- _beginObservingSizeCategoryNotification
- _usernameCell
- _updateContentInsetWithHeight
- _endObservingSizeCategoryNotification
- _endObservingTextFieldDidChangeNotifications
- _endObservingKeyboardWillShowNotifications
- _akServiceType
- _shouldAnticipatePiggybacking
- _accountsHeaderView
- _cancelButtonSelected
- _nextButtonSelected
- constrainView toFillHeaderFooterView
- allowsAccountCreation
- _actionButtonSelected
- showServiceIcons
- _stringForFooter
- privacyLinkIdentifiers
- _showOnlyPassword
- _isGreenTeaCapable
- _setUsernameCellWaiting
- _delegate_signInViewControllerDidCancel
- _attemptAuthentication
- _prewarmSignInFlowIfApplicable
- _presentForgotAppleIDPane
- _presentCreateAppleIDPane
- _attemptAuthenticationWithContext
- _isPasswordFieldVisible
- _isRunningInSettings
- _repairCloudAccountWithAuthenticationResults
- _delegate_signInViewControllerDidCompleteWithAuthenticationResults
- _authorizationValueForAuthenticationResults
- _passwordFieldIndexPath
- _setPasswordFieldHidden
- _setAkServiceType
- _setShouldAnticipatePiggybacking
- setAllowsAccountCreation
- setShowServiceIcons
- canEditUsername
- setCanEditUsername
- setPrivacyLinkIdentifiers
```

```
    - showingPasswordCell
    - setShowingPasswordCell
[*] Completed: Hook all methods of a specific class
[iPhone : PID : 18533 ]->
```

后续操作app页面，触发：

```
...
[*] Detected call to: AAUISignInViewController -> - textField:shouldChangeCharactersInR
ange:replacementString:
[*] Detected call to: AAUISignInViewController -> - _isPasswordFieldVisible:
[*] Detected call to: AAUISignInViewController -> - _showOnlyPassword:
[*] Detected call to: AAUISignInViewController -> - _textFieldDidChange:
[*] Detected call to: AAUISignInViewController -> - _hasValidCredentials:
[*] Detected call to: AAUISignInViewController -> - _textFieldDidChange:
[*] Detected call to: AAUISignInViewController -> - _hasValidCredentials:
[*] Detected call to: AAUISignInViewController -> - textField:shouldChangeCharactersInR
ange:replacementString:
[*] Detected call to: AAUISignInViewController -> - _isPasswordFieldVisible:
[*] Detected call to: AAUISignInViewController -> - _showOnlyPassword:
[*] Detected call to: AAUISignInViewController -> - _textFieldDidChange:
[*] Detected call to: AAUISignInViewController -> - _hasValidCredentials:
[*] Detected call to: AAUISignInViewController -> - textField:shouldChangeCharactersInR
ange:replacementString:
[*] Detected call to: AAUISignInViewController -> - _isPasswordFieldVisible:
[*] Detected call to: AAUISignInViewController -> - _showOnlyPassword:
[*] Detected call to: AAUISignInViewController -> - _textFieldDidChange:
[*] Detected call to: AAUISignInViewController -> - _hasValidCredentials:
[*] Detected call to: AAUISignInViewController -> - textField:shouldChangeCharactersInR
ange:replacementString:
[*] Detected call to: AAUISignInViewController -> - _isPasswordFieldVisible:
[*] Detected call to: AAUISignInViewController -> - _showOnlyPassword:
[*] Detected call to: AAUISignInViewController -> - _textFieldDidChange:
[*] Detected call to: AAUISignInViewController -> - _hasValidCredentials:
[*] Detected call to: AAUISignInViewController -> - textField:shouldChangeCharactersInR
ange:replacementString:
[*] Detected call to: AAUISignInViewController -> - _isPasswordFieldVisible:
[*] Detected call to: AAUISignInViewController -> - _showOnlyPassword:
[*] Detected call to: AAUISignInViewController -> - _textFieldDidChange:
[*] Detected call to: AAUISignInViewController -> - _hasValidCredentials:
```

继续操作app页面：输入账号，点击下一步按钮，输出：

```
[*] Detected call to: AAUISignInViewController -> - _attemptAuthentication:
[*] Detected call to: AAUISignInViewController -> - _isPasswordFieldVisible:
[*] Detected call to: AAUISignInViewController -> - _showOnlyPassword:
[*] Detected call to: AAUISignInViewController -> - authenticationContext:
[*] Detected call to: AAUISignInViewController -> - _akServiceType:
[*] Detected call to: AAUISignInViewController -> - _shouldAnticipatePiggybacking:
[*] Detected call to: AAUISignInViewController -> - _isRunningInSettings:
[*] Detected call to: AAUISignInViewController -> - _attemptAuthenticationWithContext:
[*] Detected call to: AAUISignInViewController -> - _setEnabled:
[*] Detected call to: AAUISignInViewController -> - textField:shouldChangeCharactersInR
ange:replacementString:
```

```
[*] Detected call to: AAUISignInViewController -> _isPasswordFieldVisible
[*] Detected call to: AAUISignInViewController -> _showOnlyPassword
[*] Detected call to: AAUISignInViewController -> _textFieldDidChange
[*] Detected call to: AAUISignInViewController -> _hasValidCredentials
[*] Detected call to: AAUISignInViewController -> _textFieldDidChange
[*] Detected call to: AAUISignInViewController -> _hasValidCredentials
[*] Detected call to: AAUISignInViewController -> _keyboardWillShow
[*] Detected call to: AAUISignInViewController -> _updateContentInsetWithHeight
[*] Detected call to: AAUISignInViewController -> _keyboardWillHide
[*] Detected call to: AAUISignInViewController -> _updateContentInsetWithHeight
[*] Detected call to: AAUISignInViewController -> _setUsernameCellWaiting
[*] Detected call to: AAUISignInViewController -> _showOnlyPassword
[*] Detected call to: AAUISignInViewController -> _prewarmSignInFlowIfApplicable
[*] Detected call to: AAUISignInViewController -> showServiceIcons
[*] Detected call to: AAUISignInViewController -> context needsPasswordWithCompletion

[*] Detected call to: AAUISignInViewController -> _setPasswordFieldHidden
[*] Detected call to: AAUISignInViewController -> _isPasswordFieldVisible
[*] Detected call to: AAUISignInViewController -> _showOnlyPassword
[*] Detected call to: AAUISignInViewController -> _passwordFieldIndexPath
[*] Detected call to: AAUISignInViewController -> numberOfSectionsInTableView
[*] Detected call to: AAUISignInViewController -> numberOfSectionsInTableView
[*] Detected call to: AAUISignInViewController -> tableView numberOfRowsInSection
[*] Detected call to: AAUISignInViewController -> _showOnlyPassword
[*] Detected call to: AAUISignInViewController -> tableView heightForRowAtIndexPath
[*] Detected call to: AAUISignInViewController -> tableView heightForRowAtIndexPath
[*] Detected call to: AAUISignInViewController -> tableView cellForRowAtIndexPath
[*] Detected call to: AAUISignInViewController -> _passwordFieldIndexPath
[*] Detected call to: AAUISignInViewController -> _passwordCell
[*] Detected call to: AAUISignInViewController -> tableView shouldDrawTopSeparatorFor
Section
[*] Detected call to: AAUISignInViewController -> tableView heightForRowAtIndexPath
[*] Detected call to: AAUISignInViewController -> tableView willDisplayCell forRowAtI
ndexPath
[*] Detected call to: AAUISignInViewController -> tableView shouldDrawTopSeparatorFor
Section
[*] Detected call to: AAUISignInViewController -> _setEnabled
[*] Detected call to: AAUISignInViewController -> _hasValidCredentials
[*] Detected call to: AAUISignInViewController -> _setUsernameCellWaiting
[*] Detected call to: AAUISignInViewController -> tableView shouldDrawTopSeparatorFor
Section
[*] Detected call to: AAUISignInViewController -> tableView shouldDrawTopSeparatorFor
Section
[*] Detected call to: AAUISignInViewController -> _keyboardWillShow
[*] Detected call to: AAUISignInViewController -> _updateContentInsetWithHeight
[*] Detected call to: AAUISignInViewController -> _keyboardWillShow
[*] Detected call to: AAUISignInViewController -> _updateContentInsetWithHeight
```

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所有类的所有函数

- 注意：下面代码，没有真正生效，实现我们希望的，hook所有的类的所有的方法
  - 只是记录目前的效果，供参考。

frida命令

```
frida -U -N com.apple.Preferences -l hookAccountLogin_Interceptor_allClassAllMethod.js
```

js脚本文件 `hookAccountLogin_Interceptor_allClassAllMethod.js` 内容

```
// https://github.com/noobpk/frida-ios-hook/blob/master/frida-ios-hook/frida-scripts/hook-all-methods-of-all-classes-app-only.js

function get_timestamp()
{
    var today = new Date();
    var timestamp = today.getFullYear() + '-' + (today.getMonth()+1) + '-' + today.getDate() + ' ' + today.getHours() + ":" + today.getMinutes() + ":" + today.getSeconds() + ":" + today.getMilliseconds();
    return timestamp;
}

function hook_class_method(class_name, method_name)
{
    var hook = ObjC.classes[class_name][method_name];
        Interceptor.attach(hook.implementation, {
            onEnter: function(args) {
            console.log("[*] [" + get_timestamp() + " ] Detected call to: " + class_name + " -> " + method_name);
        }
    });
}

function run_hook_all_methods_of_classes_app_only(verbose)
{
    console.log("[*] Started: Hook all methods of all app only classes");
    var free = new NativeFunction(Module.findExportByName(null, 'free'), 'void', ['pointer'])
    var copyClassNamesForImage = new NativeFunction(Module.findExportByName(null, 'objc_copyClassNamesForImage'), 'pointer', ['pointer', 'pointer'])
    var p = Memory.alloc(Process.pointerSize)
    Memory.writeUInt(p, 0)
    var path = ObjC.classes.NSBundle.mainBundle().executablePath().UTF8String()
    var pPath = Memory.allocUtf8String(path)
    var pClasses = copyClassNamesForImage(pPath, p)
    var count = Memory.readUInt(p)
```

```
    var classesArray = new Array(count)
    for (var i = 0; i < count; i++)
    {
        var pClassName = Memory.readPointer(pClasses.add(i * Process.pointerSize))
        classesArray[i] = Memory.readUtf8String(pClassName)
        var className = classesArray[i]
        if (ObjC.classes.hasOwnProperty(className))
        {
            //console.log("[+] Class: " + className);
            //var methods = ObjC.classes[className].$methods;
            var methods = ObjC.classes[className].$ownMethods;
            for (var j = 0; j < methods.length; j++)
            {
                try
                {
                    var className2 = className;
                    var funcName2 = methods[j];
                    //console.log("[-] Method: " + methods[j]);
                    hook_class_method(className2, funcName2);
                    if (verbose)
                        console.log("[*] [" + get_timestamp() + "] Hooking successful: "
 + className2 + " -> " + funcName2);
                }
                catch(err)
                {
                    console.log("[*] [" + get_timestamp() + "] Hooking Error: " + err.m
essage);
                }
            }
        }
    }
    free(pClasses)
    console.log("[*] Completed: Hook all methods of all app only classes");
}

function hook_all_methods_of_classes_app_only()
{
    setImmediate(run_hook_all_methods_of_classes_app_only,[false])
}

function hook_all_methods_of_classes_app_only(verbose)
{
    setImmediate(run_hook_all_methods_of_classes_app_only,[true])
}

hook_all_methods_of_classes_app_only()
//hook_all_methods_of_classes_app_only("verbose") //for verbose output
```

输出

```
➜  scripts frida -U -N com.apple.Preferences -l hookAccountLogin_Interceptor_allClassAl
lMethod.js
     ____
```

```
     / _ |   Frida 16.0.19 - A world-class dynamic instrumentation toolkit
    | (_| |
     > _ |   Commands:
    /_/ |_|       help      -> Displays the help system
    . . . .       object?   -> Display information about 'object'
    . . . .       exit/quit -> Exit
    . . . .
    . . . .   More info at https://frida.re/docs/home/
    . . . .
    . . . .   Connected to iPhone (id abdc0dd961c3cb96f5c4afe109de4eb48b88433a)
[*] Started: Hook all methods of all app only classes
[*] [2023-6-23 15:28:28:851] Hooking successful: PreferencesAppController -> - rootCont
roller
[*] [2023-6-23 15:28:28:852] Hooking successful: PreferencesAppController -> - appWindo
w
[*] [2023-6-23 15:28:28:853] Hooking successful: PreferencesAppController -> - profileC
onnectionDidReceiveProfileListChangedNotification:userInfo:
[*] [2023-6-23 15:28:28:854] Hooking successful: PreferencesAppController -> - profileC
onnectionDidReceiveRestrictionChangedNotification:userInfo:
[*] [2023-6-23 15:28:28:855] Hooking successful: PreferencesAppController -> - profileC
onnectionDidReceiveEffectiveSettingsChangedNotification:userInfo:
[*] [2023-6-23 15:28:28:856] Hooking successful: PreferencesAppController -> - profileC
onnectionDidReceivePasscodeChangedNotification:userInfo:
[*] [2023-6-23 15:28:28:858] Hooking successful: PreferencesAppController -> - clearCon
trollersForSuspendedState
[*] [2023-6-23 15:28:28:858] Hooking successful: PreferencesAppController -> - popToRoo
tOfSettingsSelectGeneral:
[*] [2023-6-23 15:28:28:859] Hooking successful: PreferencesAppController -> - popToRoo
tOfSettingsSelectGeneral:performWithoutDeferringTransitions:
[*] [2023-6-23 15:28:28:860] Hooking successful: PreferencesAppController -> - runTest:
options:
[*] [2023-6-23 15:28:28:862] Hooking successful: PreferencesAppController -> - runLoadi
ngTest:withOptions:
[*] [2023-6-23 15:28:28:863] Hooking successful: PreferencesAppController -> - runScrol
lTest:withOptions:
[*] [2023-6-23 15:28:28:864] Hooking successful: PreferencesAppController -> - runScrol
lTest:withDelay:withOptions:
[*] [2023-6-23 15:28:28:866] Hooking successful: PreferencesAppController -> - performR
ecapScrollTest:withOptions:scrollView:
[*] [2023-6-23 15:28:28:867] Hooking successful: PreferencesAppController -> - updateSo
ftwareUpdateBadgeOnSpecifier:
[*] [2023-6-23 15:28:28:868] Hooking successful: PreferencesAppController -> - _registe
rForAccessoryNotifications
[*] [2023-6-23 15:28:28:869] Hooking successful: PreferencesAppController -> - applicat
ion:didFinishLaunchingWithOptions:
[*] [2023-6-23 15:28:28:871] Hooking successful: PreferencesAppController -> - processS
tateRestorationURL
[*] [2023-6-23 15:28:28:871] Hooking successful: PreferencesAppController -> - applicat
ion:configurationForConnectingSceneSession:options:
[*] [2023-6-23 15:28:28:873] Hooking successful: PreferencesAppController -> - received
ApplicationWillConnectWindowScene:
[*] [2023-6-23 15:28:28:874] Hooking successful: PreferencesAppController -> - quickAct
ionShortcutItems
[*] [2023-6-23 15:28:28:875] Hooking successful: PreferencesAppController -> - received
ApplicationWillTerminateNotification:
[*] [2023-6-23 15:28:28:884] Hooking successful: PreferencesAppController -> - received
```

```
ApplicationDidEnterBackground:
[*] [2023-6-23 15:28:28:886] Hooking successful: PreferencesAppController - - received
ApplicationWillEnterForegroundNotification:
[*] [2023-6-23 15:28:28:887] Hooking successful: PreferencesAppController - - received
ApplicationDidBecomeActive:
[*] [2023-6-23 15:28:28:888] Hooking successful: PreferencesAppController - - received
ApplicationWillResignActiveNotification:
[*] [2023-6-23 15:28:28:890] Hooking successful: PreferencesAppController - - received
ApplicationContinueUserActivity:
[*] [2023-6-23 15:28:28:890] Hooking successful: PreferencesAppController - - received
ApplicationResumeNotification:
[*] [2023-6-23 15:28:28:892] Hooking successful: PreferencesAppController - - received
ApplicationOpenURLNotification:
[*] [2023-6-23 15:28:28:893] Hooking successful: PreferencesAppController - - processU
RL:
[*] [2023-6-23 15:28:28:894] Hooking successful: PreferencesAppController - - processU
RL:animated:fromSearch:
[*] [2023-6-23 15:28:28:895] Hooking successful: PreferencesAppController - - processU
RL:animated:fromSearch:withCompletion:
[*] [2023-6-23 15:28:28:896] Hooking successful: PreferencesAppController - - _rationa
lizeAccountSettingsURLDictionary:
[*] [2023-6-23 15:28:28:898] Hooking successful: PreferencesAppController - - handleAu
thKitURLIfNeededFromResourceDictionary:overViewController:
[*] [2023-6-23 15:28:28:898] Hooking successful: PreferencesAppController - - processA
ppPrefsURL:
[*] [2023-6-23 15:28:28:899] Hooking successful: PreferencesAppController - - processS
horcutsAppPrefsURL:
[*] [2023-6-23 15:28:28:900] Hooking successful: PreferencesAppController - - processP
rebuddyURL:
[*] [2023-6-23 15:28:28:901] Hooking successful: PreferencesAppController - - processT
VProviderPrefsURL:
[*] [2023-6-23 15:28:28:902] Hooking successful: PreferencesAppController - - processO
tpauthURL:
[*] [2023-6-23 15:28:28:903] Hooking successful: PreferencesAppController - - generate
URL
[*] [2023-6-23 15:28:28:904] Hooking successful: PreferencesAppController - - _clearSa
vedPositionURL
[*] [2023-6-23 15:28:28:905] Hooking successful: PreferencesAppController - - oneTimeJ
umpURL
[*] [2023-6-23 15:28:28:907] Hooking successful: PreferencesAppController - - addBusyC
ontrollersFromRootController:
[*] [2023-6-23 15:28:28:908] Hooking successful: PreferencesAppController - - endAndIn
validateBackgroundTask
[*] [2023-6-23 15:28:28:909] Hooking successful: PreferencesAppController - - controll
erFinished:
[*] [2023-6-23 15:28:28:910] Hooking successful: PreferencesAppController - - _handleB
usyControllers
[*] [2023-6-23 15:28:28:911] Hooking successful: PreferencesAppController - - _suspend
Controllers
[*] [2023-6-23 15:28:28:912] Hooking successful: PreferencesAppController - - _handleE
xternalApplicationChange
[*] [2023-6-23 15:28:28:913] Hooking successful: PreferencesAppController - - _handleI
conChangeForBundleID:
[*] [2023-6-23 15:28:28:914] Hooking successful: PreferencesAppController - - systemDi
dWake:
[*] [2023-6-23 15:28:28:915] Hooking successful: PreferencesAppController - - signific
```

```
antTimeChange
[*] [2023-6-23 15:28:28:916] Hooking successful: PreferencesAppController - - resetLoc
ale
[*] [2023-6-23 15:28:28:917] Hooking successful: PreferencesAppController - - defaultI
mageSnapshotExpiration
[*] [2023-6-23 15:28:28:918] Hooking successful: PreferencesAppController - - dealloc
[*] [2023-6-23 15:28:28:919] Hooking successful: PreferencesAppController - - _registe
rForPowerNotifications
[*] [2023-6-23 15:28:28:920] Hooking successful: PreferencesAppController - - _deregis
terForPowerNotifications
[*] [2023-6-23 15:28:28:921] Hooking successful: PreferencesAppController - - _accesso
ryDidConnect:
[*] [2023-6-23 15:28:28:922] Hooking successful: PreferencesAppController - - accessor
yDidDisconnect:
[*] [2023-6-23 15:28:28:923] Hooking successful: PreferencesAppController - - splitVie
wController:separateSecondaryViewControllerFromPrimaryViewController:
[*] [2023-6-23 15:28:28:924] Hooking successful: PreferencesAppController - - splitVie
wController:collapseSecondaryViewController:ontoPrimaryViewController:
[*] [2023-6-23 15:28:28:925] Hooking successful: PreferencesAppController - - splitVie
wControllerDidPopToRootController:
[*] [2023-6-23 15:28:28:926] Hooking successful: PreferencesAppController - - carrierB
undleChange:
[*] [2023-6-23 15:28:28:927] Hooking successful: PreferencesAppController - - rootDoma
inConnect
[*] [2023-6-23 15:28:28:929] Hooking successful: PreferencesAppController - - setRootD
omainConnect:
[*] [2023-6-23 15:28:28:930] Hooking successful: PreferencesAppController - - busyCont
rollers
[*] [2023-6-23 15:28:28:931] Hooking successful: PreferencesAppController - - setBusyC
ontrollers:
[*] [2023-6-23 15:28:28:931] Hooking successful: PreferencesAppController - - client
[*] [2023-6-23 15:28:28:932] Hooking successful: PreferencesAppController - - setClien
t:
[*] [2023-6-23 15:28:28:933] Hooking successful: PreferencesAppController - - urlManag
er
[*] [2023-6-23 15:28:28:934] Hooking successful: PreferencesAppController - - setUrlMa
nager:
[*] [2023-6-23 15:28:28:935] Hooking successful: PreferencesAppController - - windowSc
eneClass
[*] [2023-6-23 15:28:28:936] Hooking successful: PreferencesAppController - - setWindo
wSceneClass:
[*] [2023-6-23 15:28:28:937] Hooking successful: PreferencesAppController - - scene
[*] [2023-6-23 15:28:28:938] Hooking successful: PreferencesAppController - - setScene
:
[*] [2023-6-23 15:28:28:939] Hooking successful: PreferencesAppController - - accountE
numerator
[*] [2023-6-23 15:28:28:940] Hooking successful: PreferencesAppController - - setAccou
ntEnumerator:
[*] [2023-6-23 15:28:28:941] Hooking successful: PreferencesAppController - - _uuidReg
ex
[*] [2023-6-23 15:28:28:942] Hooking successful: PreferencesAppController - - set_uuid
Regex:
[*] [2023-6-23 15:28:28:943] Hooking successful: PreferencesAppController - - .cxx_des
truct
[*] [2023-6-23 15:28:28:945] Hooking successful: PreferenceSceneDelegate - - scene:wil
lConnectToSession:options:
```

```
[*] [2023-6-23 15:28:28:946] Hooking successful: PreferenceSceneDelegate -> - scene:ope
nURLContexts:
[*] [2023-6-23 15:28:28:947] Hooking successful: PreferenceSceneDelegate -> - scene:con
tinueUserActivity:
[*] [2023-6-23 15:28:28:948] Hooking successful: PreferenceSceneDelegate -> - windowSce
ne:performActionForShortcutItem:completionHandler:
[*] Completed: Hook all methods of all app only classes
[iPhone::com.apple.Preferences ]->
```

后续操作Preferences的页面，但是却没有更多的输出。

暂时就这样，有空再深究。

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ApiResolver

查找类 `AAUISignInViewController` 中的所有函数

- Frida命令

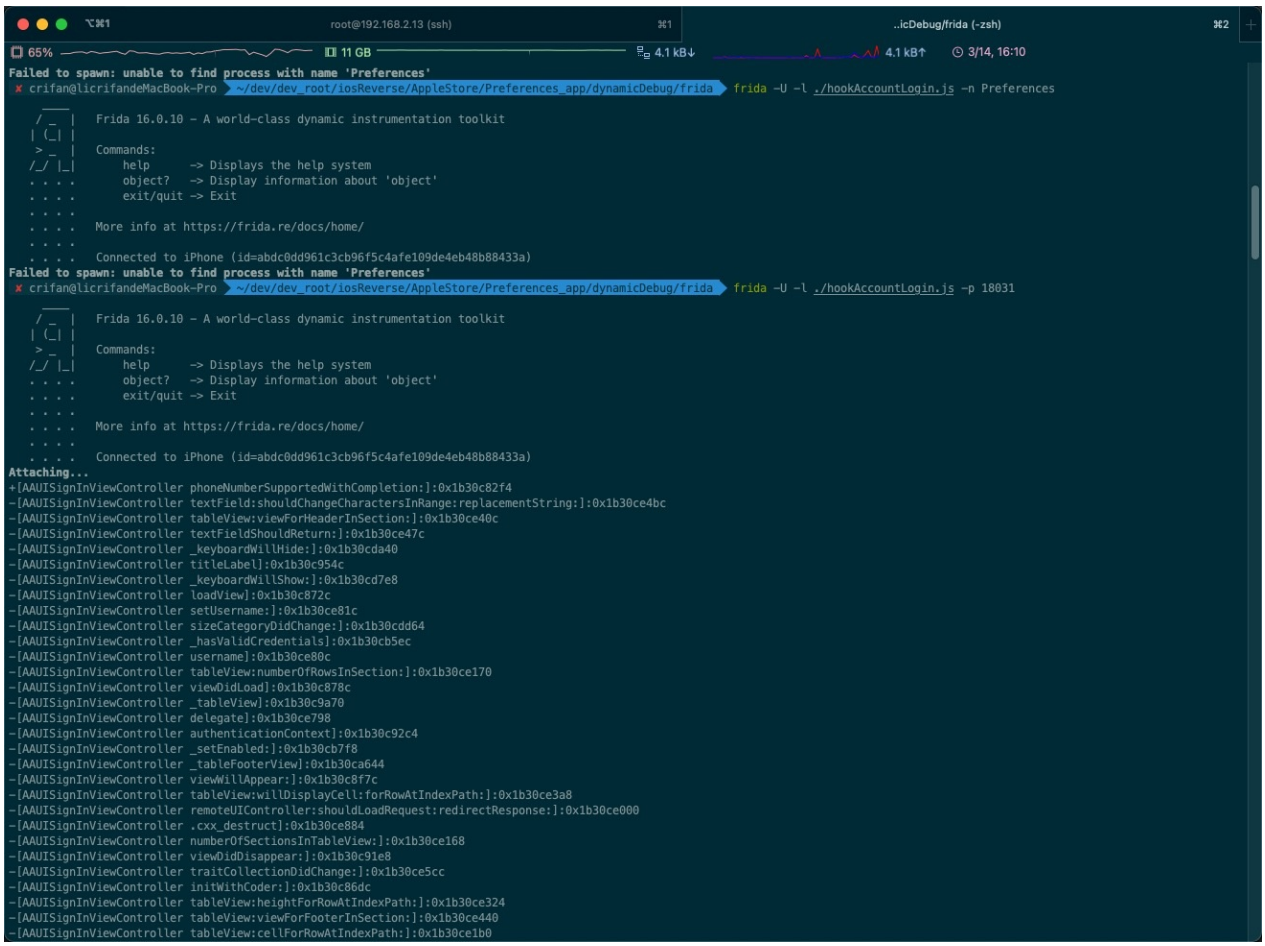
```
frida -U -p 18031 -l ./hookAccountLogin.js
```

- js文件 `hookAccountLogin.js` 的内容

```
var resolver = new ApiResolver('objc');
resolver.enumerateMatches('*[AAUISignInViewController *]', {
  onMatch: function(match) {
    console.log(match['name'] + ":" + match['address']);
  },

  onComplete: function() {}
});
```

- 输出




```
✘ crifan@licrifandeMacBook-Pro~ ~/dev/dev_root/iosReverse/AppleStore/Preferences_app/dynamicDebug/frida~ frida -U -l ./hookAccountLogin.js -p 18031
```

```
     ____
    / _  |   Frida 16.0.10 - A world-class dynamic instrumentation toolkit
   | (_| |
    > _  |   Commands:
   /_/ |_|       help      -> Displays the help system
   . . . .       object?   -> Display information about 'object'
   . . . .       exit/quit -> Exit
   . . . .
   . . . .   More info at https://frida.re/docs/home/
   . . . .
   . . . .   Connected to iPhone (id abdc0dd961c3cb96f5c4afe109de4eb48b88433a)
Attaching...
+[AAUISignInViewController phoneNumberSupportedWithCompletion:]:0x1b30c82f4
-[AAUISignInViewController textField:shouldChangeCharactersInRange:replacementString:]:
0x1b30ce4bc
-[AAUISignInViewController tableView:viewForHeaderInSection:]:0x1b30ce40c
-[AAUISignInViewController textFieldShouldReturn:]:0x1b30ce47c
-[AAUISignInViewController _keyboardWillHide:]:0x1b30cda40
-[AAUISignInViewController titleLabel]:0x1b30c954c
-[AAUISignInViewController _keyboardWillShow:]:0x1b30cd7e8
-[AAUISignInViewController loadView]:0x1b30c872c
-[AAUISignInViewController setUsername:]:0x1b30ce81c
-[AAUISignInViewController sizeCategoryDidChange:]:0x1b30cdd64
-[AAUISignInViewController _hasValidCredentials]:0x1b30cb5ec
-[AAUISignInViewController username]:0x1b30ce80c
-[AAUISignInViewController tableView:numberOfRowsInSection:]:0x1b30ce170
-[AAUISignInViewController viewDidLoad]:0x1b30c878c
-[AAUISignInViewController _tableView]:0x1b30c9a70
-[AAUISignInViewController delegate]:0x1b30ce798
-[AAUISignInViewController authenticationContext]:0x1b30c92c4
-[AAUISignInViewController _setEnabled:]:0x1b30cb7f8
-[AAUISignInViewController _tableFooterView]:0x1b30ca644
-[AAUISignInViewController viewWillAppear:]:0x1b30c8f7c
-[AAUISignInViewController tableView:willDisplayCell:forRowAtIndexPath:]:0x1b30ce3a8
-[AAUISignInViewController remoteUIController:shouldLoadRequest:redirectResponse:]:0x1b
30ce000
-[AAUISignInViewController .cxx_destruct]:0x1b30ce884
-[AAUISignInViewController numberOfSectionsInTableView:]:0x1b30ce168
-[AAUISignInViewController viewDidDisappear:]:0x1b30c91e8
-[AAUISignInViewController traitCollectionDidChange:]:0x1b30ce5cc
-[AAUISignInViewController initWithCoder:]:0x1b30c86dc
-[AAUISignInViewController tableView:heightForRowAtIndexPath:]:0x1b30ce324
-[AAUISignInViewController tableView:viewForFooterInSection:]:0x1b30ce440
-[AAUISignInViewController tableView:cellForRowAtIndexPath:]:0x1b30ce1b0
-[AAUISignInViewController setDelegate:]:0x1b30ce7b8
-[AAUISignInViewController _tableHeaderView]:0x1b30c9708
-[AAUISignInViewController tableView:shouldDrawTopSeparatorForSection:]:0x1b30ce474
-[AAUISignInViewController messageLabel]:0x1b30c95a0
-[AAUISignInViewController initWithNibName:bundle:]:0x1b30c8498
-[AAUISignInViewController dealloc]:0x1b30c9258
-[AAUISignInViewController _cancelBarButtonItem]:0x1b30c95f4
-[AAUISignInViewController viewDidLayoutSubviews]:0x1b30c9144
-[AAUISignInViewController _cancelPasswordDelegateIfNecessary]:0x1b30ccecc
-[AAUISignInViewController context:needsPasswordWithCompletion:]:0x1b30cdfa0
-[AAUISignInViewController _passwordCell]:0x1b30ca1c0
-[AAUISignInViewController _textFieldDidChange:]:0x1b30cd4d4
```

```
-[AAUISignInViewController _nextBarButtonItem]:0x1b30c9638
-[AAUISignInViewController _updateConstraintsForTraitCollection:]:0x1b30ce6c0
-[AAUISignInViewController _beginObservingTextFieldDidChangeNotifications]:0x1b30cd40c
-[AAUISignInViewController _beginObservingKeyboardWillShowNotifications]:0x1b30cd5f0
-[AAUISignInViewController _beginObservingSizeCategoryNotification]:0x1b30cdc9c
-[AAUISignInViewController _usernameCell]:0x1b30c9c00
-[AAUISignInViewController _updateContentInsetWithHeight:]:0x1b30cdb74
-[AAUISignInViewController _endObservingSizeCategoryNotification]:0x1b30cdd04
-[AAUISignInViewController _endObservingTextFieldDidChangeNotifications]:0x1b30cd474
-[AAUISignInViewController _endObservingKeyboardWillShowNotifications]:0x1b30cd6f8
-[AAUISignInViewController _akServiceType]:0x1b30ce758
-[AAUISignInViewController _shouldAnticipatePiggybacking]:0x1b30ce778
-[AAUISignInViewController _accountsHeaderView]:0x1b30c97b0
-[AAUISignInViewController _cancelButtonSelected:]:0x1b30cb96c
-[AAUISignInViewController _nextButtonSelected:]:0x1b30cb978
-[AAUISignInViewController constrainView:toFillHeaderFooterView:]:0x1b30cb1d0
-[AAUISignInViewController allowsAccountCreation]:0x1b30ce7cc
-[AAUISignInViewController _actionButtonSelected:]:0x1b30cb9ac
-[AAUISignInViewController showServiceIcons]:0x1b30ce7ec
-[AAUISignInViewController _stringForFooter]:0x1b30cb6c4
-[AAUISignInViewController privacyLinkIdentifiers]:0x1b30ce848
-[AAUISignInViewController _showOnlyPassword]:0x1b30cccac
-[AAUISignInViewController _isGreenTeaCapable]:0x1b30cb6b8
-[AAUISignInViewController _setUsernameCellWaiting:]:0x1b30cd31c
-[AAUISignInViewController _delegate_signInViewControllerDidCancel]:0x1b30cdf10
-[AAUISignInViewController _attemptAuthentication]:0x1b30cc070
-[AAUISignInViewController _prewarmSignInFlowIfApplicable]:0x1b30cc018
-[AAUISignInViewController _presentForgotAppleIDPane]:0x1b30cbf48
-[AAUISignInViewController _presentCreateAppleIDPane]:0x1b30cbe78
-[AAUISignInViewController _attemptAuthenticationWithContext:]:0x1b30cc364
-[AAUISignInViewController _isPasswordFieldVisible]:0x1b30cb670
-[AAUISignInViewController _isRunningInSettings]:0x1b30cb774
-[AAUISignInViewController _repairCloudAccountWithAuthenticationResults:]:0x1b30cc89c
-[AAUISignInViewController _delegate_signInViewControllerDidCompleteWithAuthenticationR
esults:]:0x1b30cde68
-[AAUISignInViewController _authorizationValueForAuthenticationResults:]:0x1b30ccd30
-[AAUISignInViewController _passwordFieldIndexPath]:0x1b30cd3f0
-[AAUISignInViewController _setPasswordFieldHidden:]:0x1b30ccf68
-[AAUISignInViewController _setAkServiceType:]:0x1b30ce768
-[AAUISignInViewController _setShouldAnticipatePiggybacking:]:0x1b30ce788
-[AAUISignInViewController setAllowsAccountCreation:]:0x1b30ce7dc
-[AAUISignInViewController setShowServiceIcons:]:0x1b30ce7fc
-[AAUISignInViewController canEditUsername]:0x1b30ce828
-[AAUISignInViewController setCanEditUsername:]:0x1b30ce838
-[AAUISignInViewController setPrivacyLinkIdentifiers:]:0x1b30ce858
-[AAUISignInViewController showingPasswordCell]:0x1b30ce864
-[AAUISignInViewController setShowingPasswordCell:]:0x1b30ce874
[iPhone::PID::18031 ]-
```

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Stalker

别处某示例

参考自：【iOS逆向】某营业厅算法分析_小陈_InfoQ写作社区

`ts` = `TypeScript` 代码：

```
var addr = 0x0000000029FD08 // loginWithPhoneNbr函数的起始地址
var mainModule = Process.enumerateModules()[0];
console.log(JSON.stringify(mainModule));
var mainName: string = mainModule.name;
var baseAddr = Module.findBaseAddress(mainName)!;
Interceptor.attach(baseAddr.add(addr), {
    onEnter: function(args) {
        console.log(addr.toString(16), "= loginWithPhoneNbr onEnter =");
        var tid = Process.getCurrentThreadId();
        Stalker.follow(tid, {
            events: {
                call: true, // CALL instructions: yes please
                ret: false, // RET instructions
                exec: false, // all instructions: not recommended as it's
                block: false, // block executed: coarse execution trace
                compile: false // block compiled: useful for coverage
            },
            transform: (iterator: StalkerArm64Iterator) => {
                let instruction = iterator.next();
                const startAddress = instruction!.address;
                var isAppCode = startAddress.compare(baseAddr.add(addr)) >= 0 && startA
ddress.compare(baseAddr.add(addr).add(10000)) === -1;
                do {
                    if (isAppCode) {
                        if (instruction!.mnemonic === "bl") {
                            iterator.putCallout((ctx) => {
                                var arm64Context = ctx as Arm64CpuContext;
                                console.log("bl x0 = " + new ObjC.Object(arm64Context.x0
))
                                console.log("bl x1 = " + arm64Context.x1.readCString())
                            });
                        }
                    }
                    iterator.keep();
                } while ((instruction = iterator.next()) !== null);
            }
        })
    }, onLeave: function(retval) {
        console.log("retval:", new ObjC.Object(retval))
        console.log(addr.toString(16), "= loginWithPhoneNbr onLeave =");
    }
});
```

frida-stalker-example

别处的例子：

misc/frida-stalker-example.py at master · poxyran/misc · GitHub

```
import sys
import frida

def on_message(message, data):
    print "[%s] -> %s" % (message, data)

def main(target_process):
    session = frida.attach(target_process)
    script = session.create_script("""
function StalkerExeample()
{
    var threadIds = [];

    Process.enumerateThreads({
        onMatch: function (thread)
        {
            threadIds.push(thread.id);
            console.log("Thread ID: " + thread.id.toString());
        },

        onComplete: function ()
        {
            threadIds.forEach(function (threadId)
                {
                    Stalker.follow(threadId,
                    {
                        events: {call: true},

                    onReceive: function (events)
                    {
                        console.log("onReceive called.");
                    },
                    onCallSummary: function (summary)
                    {
                        console.log("onCallSummary called.");
                    }
                });
            });
        }
    });
}

StalkerExeample();
""")
    script.on('message', on_message)
    script.load()
    raw_input('[!] Press <Enter> at any time to detach from instrumented program.\n\n')
    session.detach()
```

```
if __name__ == '__main__':
    if len(sys.argv) < 2:
        print 'Usage: %s <process name or PID>' % __file__
        sys.exit(1)

    try:
        target_process = int(sys.argv[1])
    except ValueError:
        target_process = sys.argv[1]

    main(target_process)
```

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___lldb_unnamed_symbol2575$$akd

用 `Frida` 的 `Stalker` 调试 `arm64` 的 `akd` 函数 `___lldb_unnamed_symbol2575$$akd`：

Frida命令

```
frida -U -n akd -l ./fridaStalker_akdSymbol2575.js
```

js文件 `fridaStalker_akdSymbol2575.js` 的内容

```
console.log("===== Frida Stalker hook for arm64 ___lldb_unnamed_symbol2575$$akd =====");

// arm64 akd: ___lldb_unnamed_symbol2575$$akd
// var funcRelativeStartAddr = 0x1000a0460;
var funcRelativeStartAddr = 0xa0460;
var functionSize = 0x24C8; // 9416 == 0x24C8
var funcRelativeEndAddr = funcRelativeStartAddr + functionSize;
console.log("funcRelativeStartAddr=" + funcRelativeStartAddr + ", functionSize=" + func
tionSize + ", funcRelativeEndAddr=" + funcRelativeEndAddr);
const moduleName = "akd";
const moduleBaseAddress = Module.findBaseAddress(moduleName);
console.log("moduleName=" + moduleName + ", moduleBaseAddress=" + moduleBaseAddress);
// console.log("moduleName=%s, moduleBaseAddress=%p", moduleName, moduleBaseAddress);
const funcRealStartAddr = moduleBaseAddress.add(funcRelativeStartAddr);
// var funcRealEndAddr = funcRealStartAddr + functionSize;
const funcRealEndAddr = funcRealStartAddr.add(functionSize);
console.log("funcRealStartAddr=" + funcRealStartAddr + ", funcRealEndAddr=" + funcRealE
ndAddr);
var curTid = null;
Interceptor.attach(funcRealStartAddr, {
    onEnter: function(args) {
        var arg0 = args[0]
        var arg1 = args[1]
        var arg2 = args[2]
        var arg3 = args[3]
        console.log("----- arg0=" + arg0 + ", arg1=" + arg1 + ", arg2=" + arg2 + ", arg
3=" + arg3);
        var curTid = Process.getCurrentThreadId();
        console.log("curTid=", curTid);
        Stalker.follow(curTid, {
            events: {
                call: false, // CALL instructions: yes please
                ret: true, // RET instructions
                exec: false, // all instructions: not recommended as it's
                block: false, // block executed: coarse execution trace
                compile: false // block compiled: useful for coverage
            },
            // onReceive: Called with `events` containing a binary blob comprised of on
e or more GumEvent structs. See `gumevent.h` for details about the format. Use `Stalker
.parse()` to examine the data.
```

```
            onReceive(events) {
                var parsedEvents = Stalker.parse(events)
                // var parsedEventsStr = JSON.stringify(parsedEventsStr)
                // console.log(">>> into onReceive: parsedEvents=" + parsedEvents + ",
parsedEventsStr=" + parsedEventsStr);
                console.log(">>> into onReceive: parsedEvents=" + parsedEvents);
            },

            // transform: (iterator: StalkerArm64Iterator) => {
            transform: function (iterator) {
                // console.log("iterator=" + iterator);
                var instruction = iterator.next();
                const startAddress = instruction.address;
                // console.log("+++ into iterator: startAddress=" + startAddress);
                // const isAppCode = startAddress.compare(funcRealStartAddr) >= 0 && st
artAddress.compare(funcRealEndAddr) === -1;
                // const isAppCode = (startAddress.compare(funcRealStartAddr) >= 0) &&
(startAddress.compare(funcRealEndAddr) < 0);
                const gt_realStartAddr = startAddress.compare(funcRealStartAddr) >= 0
                const lt_realEndAddr = startAddress.compare(funcRealEndAddr) < 0
                var isAppCode = gt_realStartAddr && lt_realEndAddr
                console.log("+++ into iterator: startAddress=" + startAddress + ", isAp
pCode=" + isAppCode);

                // // for debug
                // isAppCode = true

                // console.log("isAppCode=" + isAppCode + ", gt_realStartAddr=" + gt_re
alStartAddr + ", lt_realEndAddr=" + lt_realEndAddr);
                do {
                    if (isAppCode) {
                        // is origal function code = which we focus on

                        // console.log("instruction: address=" + instruction.address
                        //     + ",next=" + instruction.next()
                        //     + ",size=" + instruction.size
                        //     + ",mnemonic=" + instruction.mnemonic
                        //     + ",opStr=" + instruction.opStr
                        //     + ",operands=" + JSON.stringify(instruction.operands)
                        //     + ",regsAccessed=" + JSON.stringify(instruction.regsAcce
ssed)
                        //     + ",regsRead=" + JSON.stringify(instruction.regsRead)
                        //     + ",regsWritten=" + JSON.stringify(instruction.regsWritt
en)
                        //     + ",groups=" + JSON.stringify(instruction.groups)
                        //     + ",toString()=" + instruction.toString()
                        //     + ",toJSON()=" + instruction.toJSON()
                        // );

                        var curRealAddr = instruction.address;
                        // const isAppCode = curRealAddr.compare(funcRealStartAddr) >=
0 && curRealAddr.compare(funcRealEndAddr) === -1;
                        // console.log(curRealAddr + ": isAppCode=" + isAppCode);
                        var curOffsetHexPtr = curRealAddr.sub(funcRealStartAddr)
                        var curOffsetInt = curOffsetHexPtr.toInt32()
```

```
                        // var instructionStr = instruction.mnemonic + " " + instructio
n.opStr
                        var instructionStr = instruction.toString()
                        // console.log("\t" + curRealAddr + ": " + instructionStr);
                        // console.log("\t" + curRealAddr + " <+" + curOffsetHexPtr + "
>: " + instructionStr);
                        console.log("\t" + curRealAddr + " <+" + curOffsetInt + ">: " +
 instructionStr);
                        if (curOffsetInt == 8516) {
                            console.log("curOffsetInt=" + curOffsetInt);
                            // iterator.putCallout(needDebug);
                            iterator.putCallout((context) => {
                                var contextStr = JSON.stringify(context)
                                console.log("contextStr=" + contextStr);
                                var x9Value1 = context.x9
                                var x9Value2 = context["x9"]
                                console.log("x9Value1=" + x9Value1 + ", x9Value2=" + x9
Value2)
                            });
                        }
                    }
                    iterator.keep();
                } while ((instruction = iterator.next()) !== null);
            }
        });

        // function needDebug(context) {
        //     console.log("into needDebug");
        //     // console.log("into needDebug: context=" + context);
        //     // var contextStr = JSON.stringify(context, null, 2)
        //     // console.log("context=" + contextStr);
        //     // var x9Value1 = context.x9
        //     // var x9Value2 = context["x9"]
        //     // console.log("x9Value1=" + x9Value1 + ", x9Value2=" + x9Value2)
        // }
    },
    onLeave: function(retval) {
        console.log("retval=", new ObjC.Object(retval))
        if (curTid != null) {
            Stalker.unfollow(curTid);
            console.log("Stalker.unfollow curTid=", curTid)
        }
    }
});
```

输出

最开始输出环境初始化信息：

```
===== Frida Stalker hook for arm64 ___lldb_unnamed_symbol2575$$akd =====
funcRelativeStartAddr=656480, functionSize=9416, funcRelativeEndAddr=665896
moduleName=akd, moduleBaseAddress=0x1040e4000
funcRealStartAddr=0x104184460, funcRealEndAddr=0x104186928
```

```
[iPhone akd ]-> ----- arg0 0xfffffffffffffffe, arg1 0x16bf46838, arg2 0x16bf46838, arg3
=0xfffffffffffffffe
curTid= 9739
```

（如果开启调试：

```
// for debug
isAppCode = true
```

则会输出）

（最初是）一些非原始函数代码：

```
+++ into iterator startAddress 0x106d0bcd8, isAppCode=false
    0x106d0bcd8 <+45643896>: b #0x106d0bce8
+++ into iterator startAddress 0x106d0bce8, isAppCode=false
    0x106d0bce8 <+45643912>: str wzr, [x19, #0x90]
    0x106d0bcec <+45643916>: ldr x0, [x19, #0xa0]
    0x106d0bcf0 <+45643920>: str xzr, [x19, #0xa0]
    0x106d0bcf4 <+45643924>: cbz x0, #0x106d0bcfc
+++ into iterator startAddress 0x106d0bcf8, isAppCode=false
    0x106d0bcf8 <+45643928>: bl #0x106c0fef8
+++ into iterator startAddress 0x106d0bcfc, isAppCode=false
    0x106d0bcfc <+45643932>: ldr x0, [x19, #0x98]
    0x106d0bd00 <+45643936>: str xzr, [x19, #0x98]
    0x106d0bd04 <+45643940>: cbz x0, #0x106d0bd14
+++ into iterator startAddress 0x106d0bd08, isAppCode=false
    0x106d0bd08 <+45643944>: ldp x29, x30, [sp, #0x10]
    0x106d0bd0c <+45643948>: ldp x20, x19, [sp], #0x20
    0x106d0bd10 <+45643952>: b #0x106c0fef8
+++ into iterator startAddress 0x106c0fef8, isAppCode=false
    0x106c0fef8 <+44612248>: stp x24, x23, [sp, #-0x40]!
    0x106c0fefc <+44612252>: stp x22, x21, [sp, #0x10]
    0x106c0ff00 <+44612256>: stp x20, x19, [sp, #0x20]
    0x106c0ff04 <+44612260>: stp x29, x30, [sp, #0x30]
    0x106c0ff08 <+44612264>: add x29, sp, #0x30
    0x106c0ff0c <+44612268>: mov x19, x0
    0x106c0ff10 <+44612272>: add x23, x0, #8
    0x106c0ff14 <+44612276>: add x20, x0, #0x10
    0x106c0ff18 <+44612280>: adrp x22, #0x107d28000
    0x106c0ff1c <+44612284>: adrp x21, #0x107d28000
    0x106c0ff20 <+44612288>: add x21, x21, #0x790
    0x106c0ff24 <+44612292>: ldar w24, [x23]
    0x106c0ff28 <+44612296>: cmp w24, #2
    0x106c0ff2c <+44612300>: b.lt #0x106c0ff50
+++ into iterator startAddress 0x106c0ff30, isAppCode=false
    0x106c0ff30 <+44612304>: bl #0x106c12110
+++ into iterator startAddress 0x106c0ff34, isAppCode=false
    0x106c0ff34 <+44612308>: sub w8, w24, #1
    0x106c0ff38 <+44612312>: ldaxr w9, [x23]
    0x106c0ff3c <+44612316>: cmp w9, w24
    0x106c0ff40 <+44612320>: b.ne #0x106c0ff7c
    0x106c0ff44 <+44612324>: stlxr w9, w8, [x23]
```

```
    0x106c0ff48 <+44612328>: cbnz w9, #0x106c0ff38
+++ into iterator  startAddress=0x106c0ff4c, isAppCode=false
    0x106c0ff4c <+44612332>: b #0x106c0ff84
+++ into iterator  startAddress=0x106c0ff84, isAppCode=false
    0x106c0ff84 <+44612388>: cmp w24, #2
    0x106c0ff88 <+44612392>: b.ne #0x106c10028
+++ into iterator  startAddress=0x106c0ff8c, isAppCode=false
    0x106c0ff8c <+44612396>: tbz w0, #0, #0x106c10028
+++ into iterator  startAddress=0x106c10028, isAppCode=false
    0x106c10028 <+44612552>: ldp x29, x30, [sp, #0x30]
    0x106c1002c <+44612556>: ldp x20, x19, [sp, #0x20]
    0x106c10030 <+44612560>: ldp x22, x21, [sp, #0x10]
    0x106c10034 <+44612564>: ldp x24, x23, [sp], #0x40
    0x106c10038 <+44612568>: ret
+++ into iterator  startAddress=0x106d0a104, isAppCode=false
    0x106d0a104 <+45636772>: ldur x8, [x29, #-0x48]
    0x106d0a108 <+45636776>: adrp x9, #0x107c28000
    0x106d0a10c <+45636780>: ldr x9, [x9, #0x28]
    0x106d0a110 <+45636784>: ldr x9, [x9]
    0x106d0a114 <+45636788>: cmp x9, x8
    0x106d0a118 <+45636792>: b.ne #0x106d0a138
+++ into iterator  startAddress=0x106d0a11c, isAppCode=false
    0x106d0a11c <+45636796>: ldp x29, x30, [sp, #0x100]
    0x106d0a120 <+45636800>: ldp x20, x19, [sp, #0xf0]
    0x106d0a124 <+45636804>: ldp x22, x21, [sp, #0xe0]
    0x106d0a128 <+45636808>: ldp x24, x23, [sp, #0xd0]
    0x106d0a12c <+45636812>: ldp x28, x27, [sp, #0xc0]
    0x106d0a130 <+45636816>: add sp, sp, #0x110
    0x106d0a134 <+45636820>: ret
+++ into iterator  startAddress=0x106cb825c, isAppCode=false
    0x106cb825c <+45301244>: add w22, w22, #1
    0x106cb8260 <+45301248>: b #0x106cb820c
+++ into iterator  startAddress=0x106cb820c, isAppCode=false
    0x106cb820c <+45301164>: ldr w8, [x25, #8]
    0x106cb8210 <+45301168>: cmp w22, w8
    0x106cb8214 <+45301172>: b.eq #0x106cb8264
+++ into iterator  startAddress=0x106cb8264, isAppCode=false
    0x106cb8264 <+45301252>: ldr w25, [x26, #0x10]
    0x106cb8268 <+45301256>: tbnz w19, #0, #0x106cb8274
+++ into iterator  startAddress=0x106cb8274, isAppCode=false
    0x106cb8274 <+45301268>: ldr x21, [sp, #8]
    0x106cb8278 <+45301272>: mov x0, x25
    0x106cb827c <+45301276>: bl #0x106cc899c
+++ into iterator  startAddress=0x106cb8280, isAppCode=false
    0x106cb8280 <+45301280>: adrp x8, #0x107d2a000
    0x106cb8284 <+45301284>: ldr x0, [x8, #0x780]
    0x106cb8288 <+45301288>: bl #0x106cb8b94
+++ into iterator  startAddress=0x106cb828c, isAppCode=false
    0x106cb828c <+45301292>: cbz w19, #0x106cb829c
+++ into iterator  startAddress=0x106cb8290, isAppCode=false
    0x106cb8290 <+45301296>: ldr x8, [x20, #0x70]
    0x106cb8294 <+45301300>: ldr x9, [sp, #0x10]
    0x106cb8298 <+45301304>: str x8, [x9]
    0x106cb829c <+45301308>: ldr x8, [x27]
    0x106cb82a0 <+45301312>: cbz x8, #0x106cb82dc
+++ into iterator  startAddress=0x106cb82dc, isAppCode=false
```

```
    0x106cb82dc <+45301372>: add x27, x20, #0x68
    0x106cb82e0 <+45301376>: ldr x8, [x27]
    0x106cb82e4 <+45301380>: str x8, [x21]
    0x106cb82e8 <+45301384>: tbnz w19, #0, #0x106cb82fc
+++ into iterator  startAddress 0x106cb82fc, isAppCode=false
    0x106cb82fc <+45301404>: ldp x29, x30, [sp, #0x90]
    0x106cb8300 <+45301408>: ldp x20, x19, [sp, #0x80]
    0x106cb8304 <+45301412>: ldp x22, x21, [sp, #0x70]
    0x106cb8308 <+45301416>: ldp x24, x23, [sp, #0x60]
    0x106cb830c <+45301420>: ldp x26, x25, [sp, #0x50]
    0x106cb8310 <+45301424>: ldp x28, x27, [sp, #0x40]
    0x106cb8314 <+45301428>: add sp, sp, #0xa0
    0x106cb8318 <+45301432>: ret
+++ into iterator  startAddress 0x1044fc0b0, isAppCode=false
    0x1044fc0b0 <+3636304>: add sp, sp, #0x10
    0x1044fc0b4 <+3636308>: ldp x1, x0, [sp], #0x10
    0x1044fc0b8 <+3636312>: msr nzcv, x1
    0x1044fc0bc <+3636316>: ldp x1, x2, [sp], #0x10
    0x1044fc0c0 <+3636320>: ldp x3, x4, [sp], #0x10
    0x1044fc0c4 <+3636324>: ldp x5, x6, [sp], #0x10
    0x1044fc0c8 <+3636328>: ldp x7, x8, [sp], #0x10
    0x1044fc0cc <+3636332>: ldp x9, x10, [sp], #0x10
    0x1044fc0d0 <+3636336>: ldp x11, x12, [sp], #0x10
    0x1044fc0d4 <+3636340>: ldp x13, x14, [sp], #0x10
    0x1044fc0d8 <+3636344>: ldp x15, x16, [sp], #0x10
    0x1044fc0dc <+3636348>: ldp x17, x18, [sp], #0x10
    0x1044fc0e0 <+3636352>: ldp x19, x20, [sp], #0x10
    0x1044fc0e4 <+3636356>: ldp x21, x22, [sp], #0x10
    0x1044fc0e8 <+3636360>: ldp x23, x24, [sp], #0x10
    0x1044fc0ec <+3636364>: ldp x25, x26, [sp], #0x10
    0x1044fc0f0 <+3636368>: ldp x27, x28, [sp], #0x10
    0x1044fc0f4 <+3636372>: ldp x29, x30, [sp], #0x10
    0x1044fc0f8 <+3636376>: ldp q0, q1, [sp], #0x20
    0x1044fc0fc <+3636380>: ldp q2, q3, [sp], #0x20
    0x1044fc100 <+3636384>: ldp q4, q5, [sp], #0x20
    0x1044fc104 <+3636388>: ldp q6, q7, [sp], #0x20
    0x1044fc108 <+3636392>: ldp q8, q9, [sp], #0x20
    0x1044fc10c <+3636396>: ldp q10, q11, [sp], #0x20
    0x1044fc110 <+3636400>: ldp q12, q13, [sp], #0x20
    0x1044fc114 <+3636404>: ldp q14, q15, [sp], #0x20
    0x1044fc118 <+3636408>: ldp q16, q17, [sp], #0x20
    0x1044fc11c <+3636412>: ldp q18, q19, [sp], #0x20
    0x1044fc120 <+3636416>: ldp q20, q21, [sp], #0x20
    0x1044fc124 <+3636420>: ldp q22, q23, [sp], #0x20
    0x1044fc128 <+3636424>: ldp q24, q25, [sp], #0x20
    0x1044fc12c <+3636428>: ldp q26, q27, [sp], #0x20
    0x1044fc130 <+3636432>: ldp q28, q29, [sp], #0x20
    0x1044fc134 <+3636436>: ldp q30, q31, [sp], #0x20
    0x1044fc138 <+3636440>: ldp x16, x17, [sp], #0x10
    0x1044fc13c <+3636444>: ret x16
+++ into iterator  startAddress 0x108040030, isAppCode=false
    0x108040030 <+65780688>: sub sp, sp, #0xf0
    0x108040034 <+65780692>: stp x28, x27, [sp, #0x90]
    0x108040038 <+65780696>: stp x26, x25, [sp, #0xa0]
    0x10804003c <+65780700>: stp x24, x23, [sp, #0xb0]
    0x108040040 <+65780704>: ldr x16, #0x108040048
```

```
    0x108040044 <+65780708>: br x16
```

之后才是：原始函数代码

```
+++ into iterator: startAddress=0x104184470, isAppCode=true
    0x104184470 <+16>: stp x22, x21, [sp, #0xc0]
    0x104184474 <+20>: stp x20, x19, [sp, #0xd0]
    0x104184478 <+24>: stp x29, x30, [sp, #0xe0]
    0x10418447c <+28>: add x29, sp, #0xe0
    0x104184480 <+32>: nop
    0x104184484 <+36>: ldr x8, #0x1041d87d8
    0x104184488 <+40>: ldr x8, [x8]
    0x10418448c <+44>: stur x8, [x29, #-0x58]
    0x104184490 <+48>: mov w26, #0x5a87
    0x104184494 <+52>: movk w26, #0x6c24, lsl #16
    0x104184498 <+56>: add x8, x0, #6
    0x10418449c <+60>: cmp x8, #5
    0x1041844a0 <+64>: ccmn x0, #8, #4, hs
    0x1041844a4 <+68>: mov w8, #1
    0x1041844a8 <+72>: csel w8, wzr, w8, eq
    0x1041844ac <+76>: mov w11, #0xa5a2
    0x1041844b0 <+80>: movk w11, #0x93db, lsl #16
    0x1041844b4 <+84>: cmp x1, #0
    0x1041844b8 <+88>: cset w9, eq
    0x1041844bc <+92>: orr w8, w9, w8
    0x1041844c0 <+96>: add w9, w26, w8
    0x1041844c4 <+100>: add w9, w9, w11
    0x1041844c8 <+104>: sub w9, w9, #0x21
    0x1041844cc <+108>: adr x25, #0x1041a6cb0
    0x1041844d0 <+112>: nop
    0x1041844d4 <+116>: ldrsw x9, [x25, w9, sxtw #2]
    0x1041844d8 <+120>: nop
    0x1041844dc <+124>: ldr x10, #0x1041dd158
    0x1041844e0 <+128>: add x9, x9, x10
    0x1041844e4 <+132>: mov w22, #-0xafc9
    0x1041844e8 <+136>: br x9
+++ into iterator: startAddress=0x1041844ec, isAppCode=true
    0x1041844ec <+140>: mov x23, x1
    0x1041844f0 <+144>: mov x28, x0
    0x1041844f4 <+148>: eor w8, w8, #1
    0x1041844f8 <+152>: sub w9, w11, #0x29
    0x1041844fc <+156>: madd w22, w8, w9, w26
    0x104184500 <+160>: mov x20, #0xa930
    0x104184504 <+164>: movk x20, #0xea59, lsl #16
    0x104184508 <+168>: movk x20, #0x9bdd, lsl #32
    0x10418450c <+172>: movk x20, #0xd570, lsl #48
    0x104184510 <+176>: add w8, w22, #0xb
    0x104184514 <+180>: adr x24, #0x1041ddfe0
    0x104184518 <+184>: nop
    0x10418451c <+188>: ldr x8, [x24, w8, sxtw #3]
    0x104184520 <+192>: sub x8, x8, #2
    0x104184524 <+196>: mov w0, #0x18
    0x104184528 <+200>: str x8, [sp, #0x60]
    0x10418452c <+204>: blr x8
```

其中触发了 `onReceive` ，对应输出的log是：

```
+++ into iterator: startAddress=0x194d31f44, isAppCode=false
+++ into iterator: startAddress=0x102e327ec, isAppCode=true
    0x102e327ec  +9100 : mov w8, #0x6beb
    0x102e327f0  +9104 : movk w8, #0x3920, lsl #16
    0x102e327f4  +9108 : add w24, w21, w23
    0x102e327f8  +9112 : str xzr, [x20]
    0x102e327fc  +9116 : str w8, [x20, #8]
    0x102e32800  +9120 : mov w8, #0xf28c
    0x102e32804  +9124 : movk w8, #0x3820, lsl #16
    0x102e32808  +9128 : str w8, [x20, #0xc]
    0x102e3280c  +9132 : mov x8, #0x77e8
    0x102e32810  +9136 : movk x8, #0xcfa6, lsl #16
    0x102e32814  +9140 : movk x8, #0xde0b, lsl #32
    0x102e32818  +9144 : movk x8, #0x20cd, lsl #48
    0x102e3281c  +9148 : add x0, x19, x8
    0x102e32820  +9152 : blr x27
+++ into iterator: startAddress=0x194d30564, isAppCode=false
>>> into onReceive: parsedEvents=ret,0x1084e0038,0x1085da104,0,ret,0x1085da134,0x108588
25c,-1,ret,0x108588318,0x1036540b0,-2,ret,0x10365413c,0x10984000c,-3,ret,0x1ddc2abc0,0x
194d2e05c,0,ret,0x194d2fbdc,0x194d2dc74,1,ret,0x194d311c4,0x194d2d830,1,ret,0x194d2d898
,0x194d2e0a0,0,ret,0x1ddc2ac00,0x194d2e374,0,ret,0x194d2e3a8,0x194d31214,-1,ret,0x194d3
12e8,0x194d30478,-2,ret,0x194d304a4,0x102e30530,-3,ret,0x1ddc2abc0,0x194d2cd44,0,ret,0x
194d31894,0x194d2f0a0,1,ret,0x194d31b3c,0x194d2f0c0,1,ret,0x194d2f1ac,0x194d2cd88,0,ret
,0x1ddc2ac00,0x194d2d280,0,ret,0x194d2d2b4,0x194d3123c,-1,ret,0x194d312e8,0x194d30478,-
2,ret,0x194d304a4,0x102e305ac,-3,ret,0x1bd80959c,0x102e244e0,-2,ret,0x1ddc36aec,0x183f7
94d8,0,ret,0x183f77ab0,0x183f7958c,0,ret,0x1bd808ca8,0x1bd809c04,1,ret,0x1bd809c40,0x18
3f795a0,0,ret,0x183f7970c,0x183f795e4,0,ret,0x183f7963c,0x183f7aa34,-1,ret,0x183f7aa98,
0x102e24508,-2,ret,0x1bd808b70,0x1bd809194,-1,ret,0x1bd809240,0x102e24528,-2,ret,0x102e
24630,0x102e315c4,-3,ret,0x1ddc2abc0,0x194d2e05c,0,ret,0x194d311c4,0x194d2d830,1,ret,0x
194d2d898,0x194d2e0a0,0,ret,0x1ddc2ac00,0x194d2e374,0,ret,0x194d2e3a8,0x194d31214,-1,re
t,0x194d312e8,0x194d30478,-2,ret,0x194d304a4,0x102e316b8,-3,ret,0x1ddc2abc0,0x194d2cd44
,0,ret,0x194d31894,0x194d2efe4,1,ret,0x194d2f1ac,0x194d2cd88,0,ret,0x1ddc2ac00,0x194d2d
280,0,ret,0x194d2d2b4,0x194d3123c,-1,ret,0x194d312e8,0x194d30478,-2,ret,0x194d304a4,0x1
02e31744,-3,ret,0x1bd808aa4,0x1bd809b78,-2,ret,0x1bd809bb0,0x102e32168,-3,ret,0x194d305
c4,0x194d30a34,-1,ret,0x194d33380,0x194d30a50,-1,ret,0x194d30a1c,0x194d2c188,-2,ret,0x1
ddc2abc0,0x194d31c80,-2,ret,0x194d2c06c,0x194d31dec,-2,ret,0x194d31894,0x194d31e00,-2,r
et,0x194d31b3c,0x194d31eec,-2,ret,0x194d30e90,0x194d31f34,-2,ret,0x1ddc2ac00,0x102e327e
c,-3
+++ into iterator: startAddress=0x194d30584, isAppCode=false
+++ into iterator: startAddress=0x194d30588, isAppCode=false
```

再往后，就是：非原始函数代码，原始函数代码 交替输出

而我们此处只关心 原始函数代码，去调试输出即可。

比如最后此刻所调试的 `+8516` 行的代码

```
+++ into iterator: startAddress=0x1041865a0, isAppCode=true
    0x1041865a0 <+8512>: mov w8, #0
    0x1041865a4 <+8516>: str x9, [x10]
curOffsetInt=8516
    0x1041865a8 <+8520>: b #0x104186740
contextStr={"pc":"0x1041865a4","sp":"0x16bf46740","nzcv":1610612736,"x0":"0x0","x1":"0x
```

104ba0000","x2":"0xc","x3":"0x29","x4":"0x470b","x5":"0x0","x6":"0x0","x7":"0xec0","x8":"0x0","x9":"0x3050500","x10":"0x16bf46838","x11":"0x6c245a87","x12":"0x6c245a3d","x13":"0x1041864dc","x14":"0x45","x15":"0x0","x16":"0xd5709bdf0d7a48f0","x17":"0x123209fc0","x18":"0x0","x19":"0xdf3221f55389ecc8","x20":"0x1233064b0","x21":"0x93dba5a2","x22":"0x0","x23":"0x39207beb","x24":"0x6c245a87","x25":"0x1041a6cb0","x26":"0x6c245a87","x27":"0x194d2c100","x28":"0xfffffffffffffffe","fp":"0x16bf46820","lr":"0x104186168","q0":{},"q1":{},"q2":{},"q3":{},"q4":{},"q5":{},"q6":{},"q7":{},"q8":{},"q9":{},"q10":{},"q11":{},"q12":{},"q13":{},"q14":{},"q15":{},"q16":{},"q17":{},"q18":{},"q19":{},"q20":{},"q21":{},"q22":{},"q23":{},"q24":{},"q25":{},"q26":{},"q27":{},"q28":{},"q29":{},"q30":{},"q31":{},"d0":0.5585262685374610e-308,"d1":0.0000169759663317e-308,"d2":7.9499288951273454e-275,"d3":0,"d4":0,"d5":0,"d6":0,"d7":0,"d8":0,"d9":0,"d10":0,"d11":0,"d12":0,"d13":0,"d14":0,"d15":0,"d16":-1.0855813867524649e+251,"d17":0.000002084565455e-308,"d18":3.0554698911305689e-152,"d19":0.000001322084152e-308,"d20":3.7696966457559071e-175,"d21":1.0004894955531618e+128,"d22":9.5944260775693913e+225,"d23":-6.8154492514793903e-236,"d24":-2.1930923744387854e+50,"d25":-3.1153191556287330e+141,"d26":-1.0031492505499153e+302,"d27":-3.1584786060327890e-284,"d28":-1.7036104465458726e+239,"d29":-1.1538744009003510e-197,"d30":2.4944484440662111e-259,"d31":0,"s0":1.1035169354619356e-39,"s1":1.1210387714598533e-44,"s2":3.8204714345426298e-37,"s3":0,"s4":0,"s5":0,"s6":0,"s7":0,"s8":0,"s9":0,"s10":0,"s11":0,"s12":0,"s13":0,"s14":0,"s15":0,"s16":1.5548730664783592e-21,"s17":-1.3084408235578860e+36,"s18":-8.6088756618229034e-23,"s19":-5.408784745233076e-20,"s20":4.2151578028428229e+37,"s21":18362722504671230,"s22":3.372155249992253e+28,"s23":-7.6784630118876258e-30,"s24":-3715189.5,"s25":2.6426119211413095e+23,"s26":-3.5724724140742379e-23,"s27":-1.6239861190373424e-18,"s28":-205533200,"s29":-0.008124308660626411,"s30":-5.6424941355004989e-36,"s31":0}

```
x9Value1 0x3050500, x9Value2 0x3050500
```

输出了我们所希望的值：

- `x9 = 0x3050500`

即可实现特定的调试目的。

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Android

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hookForceStop

调用：

```
frida -U -n system_server -l hook_systemServer.js

frida -U -f com.android.settings -l hook_systemServer.js
```

对应脚本：

- `hook_systemServer.js`

```
/**
 * Update: 20230920
 * Usage:
 *  frida -U -n system_server -l hook_systemServer.js
 *
 *  frida -U -f com.android.settings -l hook_systemServer.js
*/

/*******************************************************************************
 * Const & Config
*******************************************************************************/

let CurAppPkgName = "com.wallpaper.hd.funny"

// Enable Not Call Filter
let enableNotCallFilter_Binder_execTransact = false

let enableNotCallFilter_AMS_startService = false
let enableNotCallFilter_AMS_startProcessLocked = false

let enableNotCallFilter_ActiveServices_bringUpServiceLocked = true
// let enableNotCallFilter_ActiveServices_bringUpServiceLocked = false

let enableNotCallFilter_ActiveServices_startServiceLocked = false
let enableNotCallFilter_ActiveServices_startServiceInnerLocked = false

let enableNotCallFilter_ProcessList_startProcessLocked = false
let enableNotCallFilter_ProcessList_handleProcessStartedLocked = false

let enableNotCallFilter_ContentProviderHelper_getContentProviderImpl = true
// let enableNotCallFilter_ContentProviderHelper_getContentProviderImpl = false

// let enableNotCallFilter_BroadcastQueue_processNextBroadcastLocked = false

let enableNotCallFilter_Handler_dispatchMessage = true
// let enableNotCallFilter_Handler_dispatchMessage = false


/*******************************************************************************
 * Common Util
```

```
*******************************************************************************/

// convert Object(dict/list/...) to JSON string
function toJsonStr(curObj, singleLine=false, space=2){
  // console.log("toJsonStr: singleLine=" + singleLine)
  // var jsonStr = JSON.stringify(curObj, null, 2)
  var jsonStr = JSON.stringify(curObj, null, space)
  if(singleLine) {
    // jsonStr = jsonStr.replace(/\\n/g, '')
    jsonStr = jsonStr.replace(/\n/g, '')
  }
  return jsonStr
  // return curObj.toString()
}

function describeJavaClass(className) {
  var jClass = Java.use(className);
  console.log(JSON.stringify({
    _name: className,
    _methods: Object.getOwnPropertyNames(jClass.__proto__).filter(m => {
    // _methods: Object.getOwnPropertyDescriptor(jClass.__proto__).filter(m => {
    // _methods: Object.getOwnPropertySymbols(jClass.__proto__).filter(m => {
      return !m.startsWith('$') // filter out Frida related special properties
          || m == 'class' || m == 'constructor' // optional
    }),
    _fields: jClass.class.getFields().map(f => {
      return f.toString()
    })
  }, null, 2))
}


// enumerate all methods declared in a Java class
function enumMethods(targetClass)
{
  var hook = Java.use(targetClass);
  var ownMethods = hook.class.getDeclaredMethods();
  console.log("use getDeclaredMethods")

  // var ownMethods = hook.class.getMethods();
  // console.log("use getMethods")

  hook.$dispose;
  return ownMethods;
}

// enumerate all property=field declared in a Java class
function enumProperties(targetClass)
{
  var hook = Java.use(targetClass);
  // var ownMethods = hook.class.getFields();
  // console.log("use getFields")

  var ownFields = hook.class.getDeclaredFields();
  console.log("use getDeclaredFields")
```

```
  hook.$dispose;
  return ownFields;
}

// print single java class all Functions=Methods and Fields=Properties
function printClassAllMethodsFields(javaClassName){
  console.log("==========" + "Class: " + javaClassName + " ==========")

  console.log("-----" + "All Properties" + "-----")
  var allProperties = enumProperties(javaClassName)
  allProperties.forEach(function(singleProperty) {
    console.log(singleProperty)
  })

  console.log("-----" + "All Methods" + "-----")
  // enumerate all methods in a class
  var allMethods = enumMethods(javaClassName)
  allMethods.forEach(function(singleMethod) {
    console.log(singleMethod)
  })
  console.log("")
}


// get current stack trace string
function getStackStr(ThrowableCls) {
  let newThrowable = ThrowableCls.$new()
  // console.log("getStackStr: newThrowable=" + newThrowable)
  var stackElements = newThrowable.getStackTrace()
  // console.log("getStackStr: stackElements=" + stackElements)
  var stackStr = "Stack: " + stackElements[0] //method//stackElements[0].getMethodName()

  for (var i = 1; i < stackElements.length; i++) {
    stackStr += "\n    at " + stackElements[i]
  }
  // stackStr = "\n\n" + stackStr
  stackStr = stackStr + "\n"
  // console.log("getStackStr: stackStr=" + stackStr)

  return stackStr
}

// 打印当前调用堆栈信息 print call stack
function PrintStack(ThrowableCls) {
  var stackStr = getStackStr(ThrowableCls)
  console.log(stackStr)

  // let newThrowable = ThrowableCls.$new()
  // let curLog = Java.use("android.util.Log")
  // let stackStr = curLog.getStackTraceString(newThrowable)
  // console.log("stackStr=" + stackStr)
}

// get Function call string
function getFunctionCallStr(funcName, funcParaDict){
  // var isAMSStartSevice = funcName === "AMS.startService"
```

```
  // if(isAMSStartSevice){
  //   console.log("getFunctionCallStr: funcName=" + funcName + ", funcParaDict=" + toJ
sonStr(funcParaDict))
  // }

  var logStr = `${funcName}:`
  // var logStr = funcName + ":"
  var isFirst = true

  for(var curParaName in funcParaDict){
    let curParaValue = funcParaDict[curParaName]
    var prevStr = ""
    if (isFirst){
      prevStr = " "
      isFirst = false
    } else {
      prevStr = ", "
    }

    logStr = `${logStr}${prevStr}${curParaName}=` + curParaValue
    // logStr = logStr + prevStr + curParaName + "=" + curParaValue
  }

  // if(isAMSStartSevice){
  //   console.log("getFunctionCallStr: logStr=" + logStr)
  // }

  return logStr
}

// print Function call and stack trace string
function printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls){
  // var isAMSStartSevice = funcName === "AMS.startService"
  // if (isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: funcName=" + funcName + ", funcParaDict=
" + toJsonStr(funcParaDict) + ", ThrowableCls=" + ThrowableCls)
  // }

  var functionCallStr = getFunctionCallStr(funcName, funcParaDict)

  // if (isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: functionCallStr=" + functionCallStr)
  // }

  var stackStr = getStackStr(ThrowableCls)

  // if(isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: stackStr=" + stackStr)
  // }

  var functionCallAndStackStr = `${functionCallStr}\n${stackStr}`
  // var functionCallAndStackStr = functionCallStr + "\n" + stackStr

  // if(isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: functionCallAndStackStr=" + functionCall
AndStackStr)
```

```
  // }

  // return functionCallAndStackStr
  console.log(functionCallAndStackStr)
}

// find loaded classes that match a pattern (async)
function findClass(pattern)
{
    console.log("Finding all classes that match pattern: " + pattern + "\n");

    Java.enumerateLoadedClasses({
        onMatch: function(aClass) {
            if (aClass.match(pattern))
                console.log(aClass)
        },
        onComplete: function() {}
    });
}

/*----------------------------------------
 Android Utils
----------------------------------------*/

function printProcessRecord(curProcessRecord){
  console.log("printProcessRecord: curProcessRecord=" + curProcessRecord)
  console.log("  mService=" + curProcessRecord.mService.value)
  console.log("  mProcLock=" + curProcessRecord.mProcLock.value)
  console.log("  info=" + curProcessRecord.info.value)
  console.log("  processInfo=" + curProcessRecord.processInfo.value)
  console.log("  isolated=" + curProcessRecord.isolated.value)
  console.log("  isSdkSandbox=" + curProcessRecord.isSdkSandbox.value)
  console.log("  appZygote=" + curProcessRecord.appZygote.value)
  console.log("  uid=" + curProcessRecord.uid.value)
  console.log("  userId=" + curProcessRecord.userId.value)
  console.log("  processName=" + curProcessRecord.processName.value)
  console.log("  sdkSandboxClientAppPackage=" + curProcessRecord.sdkSandboxClientAppPac
kage.value)
  console.log("  sdkSandboxClientAppVolumeUuid=" + curProcessRecord.sdkSandboxClientApp
VolumeUuid.value)
}

function getParcelInfo(curParcel){
  var parcelDataSize = curParcel.dataSize()
  var parcelDataCapacity = curParcel.dataCapacity()
  // var parcelDataPosition = curParcel.dataPosition()
  // var parcelInfoStr = "dataSize=" + parcelDataSize + ", dataCapacity=" + parcelDataC
apacity + ", dataPositon = " + parcelDataPosition
  var parcelInfoStr = "Parcel: " + curParcel + ", dataSize=" + parcelDataSize + ", data
Capacity=" + parcelDataCapacity
  return parcelInfoStr
}

// try to read Parcel string
function tryReadParcelString(curParcel){
  var parcelDataSize = curParcel.dataSize()
```

```
  // console.log("curParcel=" + curParcel + ": parcelDataSize=" + parcelDataSize)
  let StepSize = 4

  var isFoundStr = false
  var strDictList = []

  var curStr = null
  var curStepSize = 0
  // var foundStr = null
  // var strPos = -1
  var foundStrNum = 0
  for (var curPos = 0; curPos < parcelDataSize; curPos++) {
    curStepSize = StepSize
    curParcel.setDataPosition(curPos)
    curStr = curParcel.readString()
    if (curStr){
      if (curStr === "") {
        // empty string, continue try read other string
      } else {
        isFoundStr = true
        foundStrNum += 1

        // foundStr = curStr
        // strPos = curPos
        // console.log("  [" + curPos + "] string=" + curStr)
        // console.log("  [" + strPos + "] string=" + foundStr)
        var curStrDict = {"str": curStr, "pos": curPos}
        strDictList.push(curStrDict)
        var newPosition = curParcel.dataPosition()
        var posDiff = newPosition - curPos
        curStepSize = posDiff
        // console.log("  [" + foundStrNum + "] strDict=" + toJsonStr(curStrDict, true)
 + ", pos: " + curPos + " -> " + newPosition +", curStepSize=" + curStepSize)
        // break
      }
    }
    curPos += curStepSize
  }

  // setDataPosition and readString maybe CHANGED position, so need reset position
  curParcel.setDataPosition(0)

  // if(isFoundStr){
  //   // var logStr = toJsonStr(strDictList, true, 1)
  //   var logStr = toJsonStr(strDictList, true, 0)
  //   console.log("  logStr=" + logStr)
  // }

  return {
    "isFoundStr": isFoundStr,
    "strDictList": strDictList
  }
}

// print Intent info
function printIntentInfo(curIntent){
```

```
  console.log("printIntentInfo: curIntent=" + curIntent)
  var curComponent = curIntent.getComponent()
  console.log("  Intent component=" + curComponent)
  if (curComponent) {
    var pkgName = curComponent.getPackageName()
    var clsName = curComponent.getClassName()
    var shortClsName = curComponent.getShortClassName()
    var flattenedShortStr = curComponent.flattenToShortString()
    var flattenedStr = curComponent.flattenToString()
    console.log("    Intent Component info: pkgName=" + pkgName + ", clsName=" + clsNam
e + ", shortClsName=" + shortClsName + ", flattenedStr=" + flattenedStr + ",flattenedS
hortStr=" + flattenedShortStr)
  }
}


/*****************************************************************************
 * Main Hook
*****************************************************************************/

function hookNativeFunc(){
  // /Users/crifan/dev/dev_src/androidReverse/Android/android.googlesource.com/base-ref
s_heads_main/core/jni/android_util_Binder.cpp
  // status_t onTransact( uint32_t code, const Parcel& data, Parcel* reply, uint32_t fl
ags = 0) override {
  // var foundOnTransact = Module.findExportByName(null, "onTransact")

  // let transactModuleName = "libBinder.so"
  // let transactModuleName = "libbinder.so"
  let transactModuleName = "libbinder_ndk.so"

  var foundOnTransact = Module.findExportByName(transactModuleName, "onTransact")

  console.log("foundOnTransact=" + foundOnTransact)
  if (foundOnTransact) {
    Interceptor.attach(foundOnTransact, {
      onEnter: function(args) {
        var code = args[0]
        var data = args[1]
        var reply = args[2]
        var flags = args[3]
        console.log("onTransact: code=" + code + ", data=" + data + ", reply=" + reply +
 ", flags=" + flags)
      },
      onLeave: function(retVal) {
        console.log("onTransact: retval=" + retVal)
      }
    })
  }

  // var foundTransact = Module.findExportByName(null, "transact")
  var foundTransact = Module.findExportByName(transactModuleName, "transact")
  console.log("foundTransact=" + foundTransact)
}

function hookPrintTransactCodeValue(){
```

```
    // ---------------------------------------- android.app.IActivityManager$Stub
    var IActivityManagerStubClassName = "android.app.IActivityManager$Stub"
    var IActivityManagerStubCls = Java.use(IActivityManagerStubClassName)
    console.log("IActivityManagerStubCls=" + IActivityManagerStubCls)
    // printClassAllMethodsFields(IActivityManagerStubClassName)

    // console.log("IActivityManager$Stub: code_startService=" + code_startService + ",
 code_broadcastIntent=" + code_broadcastIntent + ", code_startInstrumentation=" + code_
startInstrumentation + ", code_unbindService=" + code_unbindService)
    var TRANSACTION_startService = IActivityManagerStubCls.TRANSACTION_startService.val
ue
    console.log("TRANSACTION_startService=" + TRANSACTION_startService)
    var TRANSACTION_broadcastIntent = IActivityManagerStubCls.TRANSACTION_broadcastInte
nt.value
    console.log("TRANSACTION_broadcastIntent=" + TRANSACTION_broadcastIntent)
    var TRANSACTION_unbindService = IActivityManagerStubCls.TRANSACTION_unbindService.v
alue
    console.log("TRANSACTION_unbindService=" + TRANSACTION_unbindService)
    var TRANSACTION_publishService = IActivityManagerStubCls.TRANSACTION_publishService.
value
    console.log("TRANSACTION_publishService=" + TRANSACTION_publishService)
    var TRANSACTION_startInstrumentation = IActivityManagerStubCls.TRANSACTION_startIns
trumentation.value
    console.log("TRANSACTION_startInstrumentation=" + TRANSACTION_startInstrumentation)
    var TRANSACTION_startActivity = IActivityManagerStubCls.TRANSACTION_startActivity.v
alue
    console.log("TRANSACTION_startActivity=" + TRANSACTION_startActivity)
    // var TRANSACTION_startActivityAndWait = IActivityManagerStubCls.TRANSACTION_start
ActivityAndWait.value
    // console.log("TRANSACTION_startActivityAndWait=" + TRANSACTION_startActivityAndWa
it)
    // var TRANSACTION_startActivityAsCaller = IActivityManagerStubCls.TRANSACTION_star
tActivityAsCaller.value
    // console.log("TRANSACTION_startActivityAsCaller=" + TRANSACTION_startActivityAsCa
ller)
    var TRANSACTION_startActivityAsUser = IActivityManagerStubCls.TRANSACTION_startActi
vityAsUser.value
    console.log("TRANSACTION_startActivityAsUser=" + TRANSACTION_startActivityAsUser)
    var TRANSACTION_startActivityFromRecents = IActivityManagerStubCls.TRANSACTION_star
tActivityFromRecents.value
    console.log("TRANSACTION_startActivityFromRecents=" + TRANSACTION_startActivityFrom
Recents)
    // var TRANSACTION_startActivityIntentSender = IActivityManagerStubCls.TRANSACTION_
startActivityIntentSender.value
    // console.log("TRANSACTION_startActivityIntentSender=" + TRANSACTION_startActivity
IntentSender)
    // var TRANSACTION_startActivityWithConfig = IActivityManagerStubCls.TRANSACTION_st
artActivityWithConfig.value
    // console.log("TRANSACTION_startActivityWithConfig=" + TRANSACTION_startActivityWi
thConfig)

    var TRANSACTION_registerUidObserver = IActivityManagerStubCls.TRANSACTION_registerU
idObserver.value
    console.log("TRANSACTION_registerUidObserver=" + TRANSACTION_registerUidObserver)
    var TRANSACTION_unhandledBack = IActivityManagerStubCls.TRANSACTION_unhandledBack.v
alue
```

```
    console.log("TRANSACTION_unhandledBack=" + TRANSACTION_unhandledBack)
    var TRANSACTION_registerReceiver = IActivityManagerStubCls.TRANSACTION_registerRece
iver.value
    console.log("TRANSACTION_registerReceiver=" + TRANSACTION_registerReceiver)
    var TRANSACTION_attachApplication = IActivityManagerStubCls.TRANSACTION_attachAppli
cation.value
    console.log("TRANSACTION_attachApplication=" + TRANSACTION_attachApplication)
    // var TRANSACTION_activityIdle = IActivityManagerStubCls.TRANSACTION_activityIdle.
value
    // console.log("TRANSACTION_activityIdle=" + TRANSACTION_activityIdle)
    var TRANSACTION_stopService = IActivityManagerStubCls.TRANSACTION_stopService.value
    console.log("TRANSACTION_stopService=" + TRANSACTION_stopService)
    var TRANSACTION_bindService = IActivityManagerStubCls.TRANSACTION_bindService.value
    console.log("TRANSACTION_bindService=" + TRANSACTION_bindService)
    var TRANSACTION_noteWakeupAlarm = IActivityManagerStubCls.TRANSACTION_noteWakeupAla
rm.value
    console.log("TRANSACTION_noteWakeupAlarm=" + TRANSACTION_noteWakeupAlarm)
    var TRANSACTION_openContentUri = IActivityManagerStubCls.TRANSACTION_openContentUri.
value
    console.log("TRANSACTION_openContentUri=" + TRANSACTION_openContentUri)
    var TRANSACTION_finishReceiver = IActivityManagerStubCls.TRANSACTION_finishReceiver.
value
    console.log("TRANSACTION_finishReceiver=" + TRANSACTION_finishReceiver)
    // var TRANSACTION_startNextMatchingActivity = IActivityManagerStubCls.TRANSACTION_
startNextMatchingActivity.value
    // console.log("TRANSACTION_startNextMatchingActivity=" + TRANSACTION_startNextMatc
hingActivity)

    var TRANSACTION_finishActivity = IActivityManagerStubCls.TRANSACTION_finishActivity.
value
    console.log("TRANSACTION_finishActivity=" + TRANSACTION_finishActivity)
}

function hookForceStop() {
  if(!Java.available){
    console.error("Java is not available")
    return
  }

  console.log("Java is available")
  console.log("Java.androidVersion=" + Java.androidVersion)

  Java.perform(function () {

    const ValidTransactCodeList = [
      // 24,
      // 26,
      // 27,
      // 28,
      // 29,
      // 30,
      // 34,

      3, // f12217h = START_ACTIVITY_TRANSACTION = 2+1 = 3
      8, // TRANSACTION_startActivity= 7+1 = 8
```

```
      27, // serviceCode = TRANSACTION_startService = 27
      // 34, // serviceCode = START_SERVICE_TRANSACTION = 33+1 = 34

      29, // TRANSACTION_bindService = 29

      15, // broadcastCode = TRANSACTION_broadcastIntent = 14+1 = 15
      // 14, // broadcastCode = BROADCAST_INTENT_TRANSACTION = 13+1 = 14, TRANSACTION_r
emoveAccountExplicitly = 13+1 = 14

      37, // instrumentationCode = TRANSACTION_startInstrumentation = 36+1= 37
      // 44, // instrumentationCode = START_INSTRUMENTATION_TRANSACTION = 43+1= 44
    ]

    hookNativeFunc()

    var ThrowableCls = Java.use("java.lang.Throwable")
    console.log("ThrowableCls=" + ThrowableCls)
    let curLog = Java.use("android.util.Log")
    console.log("curLog=" + curLog)
    let Parcel = Java.use("android.os.Parcel")
    console.log("Parcel=" + Parcel)

    // // com.android.server.wm.ActivityStarter
    // var serverCls = Java.use("com.android.server")
    // console.log("serverCls=" + serverCls)
    // var wmCls = serverCls.wm
    // console.log("wmCls=" + wmCls)
    // var ActivityStarterCls = wmCls.ActivityStarter
    // console.log("ActivityStarterCls=" + ActivityStarterCls)
    // // private int executeRequest(Request request) {

    // hookPrintTransactCodeValue()

    // ---------------------------------------- android.os.Binder
    var BinderCls = Java.use("android.os.Binder")
    console.log("BinderCls=" + BinderCls)

    // private boolean execTransact(int code, long dataObj, long replyObj, int flags)
    var execTransactFunc = BinderCls.execTransact
    console.log("execTransactFunc=" + execTransactFunc)

    if (execTransactFunc) {
      execTransactFunc.implementation = function (code, dataObj, replyObj, flags) {
        var shouldCallOrigFunc = true
        // var logStr = ""

        // if (ValidTransactCodeList.includes(code)) {
          var dataParcel = Parcel.obtain(dataObj)

          // var replyPacel = Parcel.obtain(replyObj)
          // var dataParcelStr = dataParcel.toString()
          // var replyPacelStr = replyPacel.toString()
          // console.log("dataParcelStr=" + dataParcelStr + ", replyPacelStr=" + replyP
acelStr)
          var curParcelDataSize = dataParcel.dataSize()
          // console.log("  curParcelDataSize=" + curParcelDataSize)
```

```
          if (curParcelDataSize > 0) {
            // let interfaceTokenStartPos = 1
            // let interfaceTokenStartPos = 0
            // let interfaceTokenStartPos = 4
            // let interfaceTokenStartPos = 8
            // dataParcel.setDataPosition(interfaceTokenStartPos)
            // var interfaceTokenStr = dataParcel.readString()
            // console.log("  interfaceTokenStr=" + interfaceTokenStr)

            // var parcelStr = tryReadParcelString(dataParcel)
            // var {parcelStr, strPos} = tryReadParcelString(dataParcel)
            var readResultDict = tryReadParcelString(dataParcel)
            // console.log("parcelStr=" + parcelStr + ", strPos=" + strPos)
            var isFoundStr = readResultDict.isFoundStr
            var strDictList = readResultDict.strDictList
            if (isFoundStr) {
              // var foundStrLog = ""
              var strDictListStr = toJsonStr(strDictList, true, 0)
              // console.log("Binder.execTransact: code=" + code + ", dataObj=" + dataO
bj + ", replyObj=" + replyObj + ", flags=" + flags)
              var execTransactCallStr = "Binder.execTransact: code=" + code + ", dataOb
j=" + dataObj + ", replyObj=" + replyObj + ", flags=" + flags
              // console.log(execTransactCallStr)

              var dataParcelInfoStr = getParcelInfo(dataParcel)
              // var replyPacelInfoStr = getParcelInfo(replyPacel)
              // console.log("dataParcelInfoStr=" + dataParcelInfoStr + ", replyPacelIn
foStr=" + replyPacelInfoStr)
              // console.log("  dataParcel: strDictListStr=" + strDictListStr + ", info
Str=" + dataParcelInfoStr)
              var dataParcelCurAppStr = "  dataParcel: strDictListStr=" + strDictListSt
r + ", infoStr=" + dataParcelInfoStr
              // console.log(dataParcelCurAppStr)

              // for debug: found string not empty, then not call origin transact -> tr
y find this function is true core trigger service or not
              // if (parcelStr) {
              // if (parcelStr === CurAppPkgName) {
              var isCurApp = false
              for (var idx = 0; idx < strDictList.length; idx++) {
                var curStrDict = strDictList[idx]
                var curPos = curStrDict["pos"]
                var curStr = curStrDict["str"]
                if (curStr.includes(CurAppPkgName)) {
                  isCurApp = true
                  // console.log("    Found [" + curPos + "] current app: " + curStr)
                  break
                }
              }

              if (enableNotCallFilter_Binder_execTransact){
                if (isCurApp) {
                  shouldCallOrigFunc = false
                  // console.log("  shouldCallOrigFunc=" + shouldCallOrigFunc)
                }
              }
```

```
              var shouldLogDetail = false
              if (isCurApp) {
                shouldLogDetail = true
                // console.log("shouldLogDetail=" + shouldLogDetail)
              }

              if (shouldLogDetail){
                // var detailedLogStr = execTransactCallStr + "\n" + dataParcelCurAppStr

                var detailedLogStr = `${execTransactCallStr}\n${dataParcelCurAppStr}`
                // var detailedLogStr = execTransactCallStr + "\n" + dataParcelCurAppStr

                console.log(detailedLogStr)
                // foundStrLog = `${execTransactCallStr}\n${dataParcelCurAppStr}`

                //   // console.log("CurApp Binder.execTransact: code=" + code + ", dat
aObj=" + dataObj + ", replyObj=" + replyObj + ", flags=" + flags + "\n  dataParcel: str
DictListStr=" + strDictListStr + ", infoStr=" + dataParcelInfoStr)
                //   console.log("CurApp Binder.execTransact: code=" + code + ", dataOb
j=" + dataObj + ", replyObj=" + replyObj + ", flags=" + flags)
                //   console.log("  dataParcel: strDictListStr=" + strDictListStr + ",
infoStr=" + dataParcelInfoStr)

                //   // logStr = `Binder.execTransact: code=${code}, dataObj=${dataObj}
, replyObj=${replyObj}, flags=${flags}\n  dataParcel: strDictListStr=${strDictListStr},
 infoStr=${ dataParcelInfoStr}`
                //   // console.log("DetailLogStr=" + logStr)
              } else {
                //   console.log("Simple Binder.execTransact: code=" + code + ", dataOb
j=" + dataObj + ", flags=" + flags)
                //   // logStr = `Simple: Binder.execTransact: code=${code}, dataObj=${
dataObj}, flags=${flags}`
                //   // console.log("SimpleLogStr=" + logStr)

                // foundStrLog = `Binder.execTransact: code=${code}, dataObj=${dataObj}
, flags=${flags}`
                var simpleLog = `Binder.execTransact: code=${code}, dataObj=${dataObj},
 flags=${flags}`
                // var simpleLog = "Binder.execTransact: code=" + code + ", dataObj=" +
 dataObj + ", flags=" + flags
                console.log(simpleLog)
              }

              // console.log(foundStrLog)
            }

            // PrintStack(ThrowableCls)
          } else {
            console.log("Binder execTransact: code=" + code + ", 0 size data Parcel, fl
ags=" + flags)
          }
        // }

        if (shouldCallOrigFunc) {
          // console.log(logStr)
```

```
          return this.execTransact(code, dataObj, replyObj, flags)
        } else {
          // console.log(logStr)
          console.log("    Not call Binder.execTransact")
          return false
        }

      }
    }

    var IBinderClassName = "android.os.IBinder"
    var IBinderCls = Java.use(IBinderClassName)
    console.log("IBinderCls=" + IBinderCls)
    // printClassAllMethodsFields(IBinderClassName)
    var firstCallTransacton = IBinderCls.FIRST_CALL_TRANSACTION
    console.log("firstCallTransacton=" + firstCallTransacton)
    var firstCallTransactonValue = firstCallTransacton.value
    console.log("firstCallTransactonValue=" + firstCallTransactonValue)

    // public abstract boolean transact (int code, Parcel data, Parcel reply, int flags)

    // var transactFunc = IBinderCls.transact

    var transactFunc = BinderCls.transact
    if (transactFunc) {
      transactFunc.implementation = function (code, data, reply, flags) {
        var transactOk = this.transact(code, data, reply, flags)
        if (ValidTransactCodeList.includes(code)) {
          console.log("Binder transact: code=" + code + ",data=" + data + ",reply=" + r
eply + ",flags=" + flags + " -> transactOk=" + transactOk)
          PrintStack(ThrowableCls)
        }
        return transactOk
      }
    }

    // protected boolean onTransact (int code,  Parcel data,  Parcel reply,  int flags)
    var onTransactFunc = BinderCls.onTransact
    if (onTransactFunc) {
      onTransactFunc.implementation = function (code, data, reply, flags) {
        var transactOk = this.onTransact(code, data, reply, flags)
        if (ValidTransactCodeList.includes(code)) {
          console.log("Binder onTransact: code=" + code + ",data=" + data + ",reply=" +
 reply + ",flags=" + flags + " -> transactOk=" + transactOk)
          PrintStack(ThrowableCls)
        }
        return transactOk
      }
    }

    // ---------------------------------------- android.app.ContextImpl
    var ContextImplClassName = "android.app.ContextImpl"
    var ContextImplCls = Java.use(ContextImplClassName)
    console.log("ContextImplCls=" + ContextImplCls)
    // printClassAllMethodsFields(ContextImplClassName)
```

```
    // public boolean bindServiceAsUser(Intent service, ServiceConnection conn, int fla
gs, UserHandle user)
    var bindServiceAsUserFunc4 = ContextImplCls.bindServiceAsUser.overload('android.con
tent.Intent', 'android.content.ServiceConnection', 'int', 'android.os.UserHandle')
    if (bindServiceAsUserFunc4) {
      bindServiceAsUserFunc4.implementation = function (service, conn, flags, user) {
        // console.log("ContextImpl.bindServiceAsUser 4: service=" + service + ", conn=
" + conn + ", flags=" + flags + ", user=" + user)
        // PrintStack(ThrowableCls)
        var funcName = "ContextImpl.bindServiceAsUser 4"
        var funcParaDict = {
          "service": service,
          "conn": conn,
          "flags": flags,
          "user": user,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        return this.bindServiceAsUser(service, conn, flags, user)
      }
    }

    // public boolean bindServiceAsUser(Intent service, ServiceConnection conn, int fla
gs, Handler handler, UserHandle user)
    var bindServiceAsUserFunc5 = ContextImplCls.bindServiceAsUser.overload('android.con
tent.Intent', 'android.content.ServiceConnection', 'int', 'android.os.Handler', 'androi
d.os.UserHandle')
    if (bindServiceAsUserFunc5) {
      bindServiceAsUserFunc5.implementation = function (service, conn, flags, handler,
user) {
        // console.log("ContextImpl.bindServiceAsUser 5: service=" + service + ", conn=
" + conn + ", flags=" + flags + ", handler=" + handler + ", user=" + user)
        // PrintStack(ThrowableCls)
        var funcName = "ContextImpl.bindServiceAsUser 5"
        var funcParaDict = {
          "service": service,
          "conn": conn,
          "flags": flags,
          "handler": handler,
          "user": user,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        return this.bindServiceAsUser(service, conn, flags, handler, user)
      }
    }


    // ---------------------------------------- com.android.server.am.ProcessRecord
    var ProcessRecordClassName = "com.android.server.am.ProcessRecord"
    var ProcessRecordCls = Java.use(ProcessRecordClassName)
    console.log("ProcessRecordCls=" + ProcessRecordCls)
    // printClassAllMethodsFields(ProcessRecordClassName)

    // ---------------------------------------- com.android.server.am.ActiveServices
    var ActiveServicesClassName = "com.android.server.am.ActiveServices"
```

```
    var ActiveServicesCls = Java.use(ActiveServicesClassName)
    console.log("ActiveServicesCls=" + ActiveServicesCls)

    // private String bringUpServiceLocked(ServiceRecord r, int intentFlags, boolean ex
ecInFg, boolean whileRestarting, boolean permissionsReviewRequired, boolean packageFroz
en, boolean enqueueOomAdj)
    var bringUpServiceLockedFunc = ActiveServicesCls.bringUpServiceLocked
    if (bringUpServiceLockedFunc) {
      bringUpServiceLockedFunc.implementation = function (r, intentFlags, execInFg, whi
leRestarting, permissionsReviewRequired, packageFrozen, enqueueOomAdj) {
        var shouldCallOrigFunc = true
        // console.log("ActiveServices.bringUpServiceLocked: r=" + r + ", intentFlags="
 + intentFlags + ", execInFg=" + execInFg + ", whileRestarting=" + whileRestarting + ",
 permissionsReviewRequired=" + permissionsReviewRequired + ", packageFrozen=" + package
Frozen + ", enqueueOomAdj=" + enqueueOomAdj)
        // PrintStack(ThrowableCls)

        var funcName = "ActiveServices.bringUpServiceLocked"
        var funcParaDict = {
          "r": r,
          "intentFlags": intentFlags,
          "execInFg": execInFg,
          "whileRestarting": whileRestarting,
          "permissionsReviewRequired": permissionsReviewRequired,
          "packageFrozen": packageFrozen,
          "enqueueOomAdj": enqueueOomAdj,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        if(enableNotCallFilter_ActiveServices_bringUpServiceLocked){
          var rStr = r.toString()
          if (rStr.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if(shouldCallOrigFunc) {
          return this.bringUpServiceLocked(r, intentFlags, execInFg, whileRestarting, p
ermissionsReviewRequired, packageFrozen, enqueueOomAdj)
        } else {
          console.log("  Not call ActiveServices.bringUpServiceLocked")
          return ""
        }
      }
    }

    // ComponentName startServiceLocked(IApplicationThread caller, Intent service, Stri
ng resolvedType, int callingPid, int callingUid, boolean fgRequired, String callingPack
age, @Nullable String callingFeatureId, final int userId)
    var startServiceLockedFunc9 = ActiveServicesCls.startServiceLocked.overload('androi
d.app.IApplicationThread', 'android.content.Intent', 'java.lang.String', 'int', 'int',
'boolean', 'java.lang.String', 'java.lang.String', 'int')
    if (startServiceLockedFunc9) {
      startServiceLockedFunc9.implementation = function (caller, service, resolvedType,
 callingPid, callingUid, fgRequired, callingPackage, callingFeatureId, userId) {
        var shouldCallOrigFunc = true
```

```
        var funcName = "ActiveServices.startServiceLocked 9"
        var funcParaDict = {
          "caller": caller,
          "service": service,
          "resolvedType": resolvedType,
          "callingPid": callingPid,
          "callingUid": callingUid,
          "fgRequired": fgRequired,
          "callingPackage": callingPackage,
          "callingFeatureId": callingFeatureId,
          "userId": userId,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        if(enableNotCallFilter_ActiveServices_startServiceLocked){
          if (callingPackage.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if(shouldCallOrigFunc) {
          return this.startServiceLocked(caller, service, resolvedType, callingPid, cal
lingUid, fgRequired, callingPackage, callingFeatureId, userId)
        } else {
          console.log("  Not call ActiveServices.startServiceLocked 9")
          return null
        }
      }
    }

    // ComponentName startServiceLocked(IApplicationThread caller, Intent service, Stri
ng resolvedType, int callingPid, int callingUid, boolean fgRequired, String callingPack
age, @Nullable String callingFeatureId, final int userId, boolean allowBackgroundActivi
tyStarts, @Nullable IBinder backgroundActivityStartsToken)
    var startServiceLockedFunc11 = ActiveServicesCls.startServiceLocked.overload('andro
id.app.IApplicationThread', 'android.content.Intent', 'java.lang.String', 'int', 'int',
'boolean', 'java.lang.String', 'java.lang.String', 'int', 'boolean', 'android.os.IBinde
r')
    if (startServiceLockedFunc11) {
      startServiceLockedFunc11.implementation = function (caller, service, resolvedType,
 callingPid, callingUid, fgRequired, callingPackage, callingFeatureId, userId, allowBac
kgroundActivityStarts, backgroundActivityStartsToken) {
        var shouldCallOrigFunc = true
        var funcName = "ActiveServices.startServiceLocked 11"
        var funcParaDict = {
          "caller": caller,
          "service": service,
          "resolvedType": resolvedType,
          "callingPid": callingPid,
          "callingUid": callingUid,
          "fgRequired": fgRequired,
          "callingPackage": callingPackage,
          "callingFeatureId": callingFeatureId,
          "userId": userId,
          "allowBackgroundActivityStarts": allowBackgroundActivityStarts,
          "backgroundActivityStartsToken": backgroundActivityStartsToken,
```

```
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        if(enableNotCallFilter_ActiveServices_startServiceLocked){
          if (callingPackage.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if(shouldCallOrigFunc) {
          return this.startServiceLocked(caller, service, resolvedType, callingPid, cal
lingUid, fgRequired, callingPackage, callingFeatureId, userId, allowBackgroundActivityS
tarts, backgroundActivityStartsToken)
        } else {
          console.log("  Not call ActiveServices.startServiceLocked 11")
          return null
        }
      }
    }

    // ComponentName startServiceInnerLocked(ServiceMap smap, Intent service, ServiceRe
cord r, boolean callerFg, boolean addToStarting, int callingUid, boolean wasStartReques
ted)
    var startServiceInnerLockedFunc7 = ActiveServicesCls.startServiceInnerLocked.overlo
ad('com.android.server.am.ActiveServices$ServiceMap', 'android.content.Intent', 'com.an
droid.server.am.ServiceRecord', 'boolean', 'boolean', 'int', 'boolean')
    if (startServiceInnerLockedFunc7) {
      startServiceInnerLockedFunc7.implementation = function (smap, service, r, callerFg
, addToStarting, callingUid, wasStartRequested) {
        var shouldCallOrigFunc = true
        var funcName = "ActiveServices.startServiceInnerLocked 7"
        var funcParaDict = {
          "smap": smap,
          "service": service,
          "r": r,
          "callerFg": callerFg,
          "addToStarting": addToStarting,
          "callingUid": callingUid,
          "wasStartRequested": wasStartRequested,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        if(enableNotCallFilter_ActiveServices_startServiceInnerLocked){
          var rStr = r.toString()
          if (rStr.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if(shouldCallOrigFunc) {
          return this.startServiceInnerLocked(smap, service, r, callerFg, addToStarting,
 callingUid, wasStartRequested)
        } else {
          console.log("  Not call ActiveServices.startServiceInnerLocked 7")
          return null
        }
```

```
      }
    }

    // private ComponentName startServiceInnerLocked(ServiceRecord r, Intent service, i
nt callingUid, int callingPid, boolean fgRequired, boolean callerFg, boolean allowBackg
roundActivityStarts, @Nullable IBinder backgroundActivityStartsToken)
    var startServiceInnerLockedFunc8 = ActiveServicesCls.startServiceInnerLocked.overlo
ad('com.android.server.am.ServiceRecord', 'android.content.Intent', 'int', 'int', 'bool
ean', 'boolean', 'boolean', 'android.os.IBinder')
    if (startServiceInnerLockedFunc8) {
      startServiceInnerLockedFunc8.implementation = function (r, service, callingUid, c
allingPid, fgRequired, callerFg, allowBackgroundActivityStarts, backgroundActivityStart
sToken) {
        var shouldCallOrigFunc = true
        var funcName = "ActiveServices.startServiceInnerLocked 8"
        var funcParaDict = {
          "r": r,
          "service": service,
          "callingUid": callingUid,
          "callingPid": callingPid,
          "fgRequired": fgRequired,
          "callerFg": callerFg,
          "allowBackgroundActivityStarts": allowBackgroundActivityStarts,
          "backgroundActivityStartsToken": backgroundActivityStartsToken,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        if(enableNotCallFilter_ActiveServices_startServiceInnerLocked){
          var rStr = r.toString()
          if (rStr.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if(shouldCallOrigFunc) {
          return this.startServiceInnerLocked(r, service, callingUid, callingPid, fgReq
uired, callerFg, allowBackgroundActivityStarts, backgroundActivityStartsToken)
        } else {
          console.log("  Not call ActiveServices.startServiceInnerLocked 8")
          return null
        }
      }
    }


    // ---------------------------------------- com.android.server.am.ProcessList
    var ProcessListCls = Java.use("com.android.server.am.ProcessList")
    console.log("ProcessListCls=" + ProcessListCls)

    //     boolean startProcessLocked(HostingRecord hostingRecord, String entryPoint, P
rocessRecord app, int uid, int[] gids, int runtimeFlags, int zygotePolicyFlags, int mou
ntExternal, String seInfo, String requiredAbi, String instructionSet, String invokeWith
, long startUptime, long startElapsedTime)
    var startProcessLockedFunc = ProcessListCls.startProcessLocked.overload('com.androi
d.server.am.HostingRecord', 'java.lang.String', 'com.android.server.am.ProcessRecord',
'int', '[I', 'int', 'int', 'int', 'java.lang.String', 'java.lang.String', 'java.lang.St
```

```
ring', 'java.lang.String', 'long', 'long')
    console.log("startProcessLockedFunc=" + startProcessLockedFunc)
    if (startProcessLockedFunc) {
      startProcessLockedFunc.implementation = function (hostingRecord, entryPoint, app,
 uid, gids, runtimeFlags, zygotePolicyFlags, mountExternal, seInfo, requiredAbi, instru
ctionSet, invokeWith, startUptime, startElapsedTime) {
        var shouldCallOrigFunc = true
        console.log("ProcessList.startProcessLocked: hostingRecord=" + hostingRecord +
", entryPoint=" + entryPoint + ", app=" + app + ", uid=" + uid + ", gids=" + gids + ",
runtimeFlags=" + runtimeFlags + ", zygotePolicyFlags=" + zygotePolicyFlags + ", mountEx
ternal=" + mountExternal + ", seInfo=" + seInfo + ", requiredAbi=" + requiredAbi + ", i
nstructionSet=" + instructionSet + ", invokeWith=" + invokeWith + ", startUptime=" + st
artUptime + ", startElapsedTime=" + startElapsedTime)
        // PrintStack(ThrowableCls)

        if(enableNotCallFilter_ProcessList_startProcessLocked){
          var appStr = app.toString()
          if (appStr.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if(shouldCallOrigFunc) {
          return this.startProcessLocked(hostingRecord, entryPoint, app, uid, gids, run
timeFlags, zygotePolicyFlags, mountExternal, seInfo, requiredAbi, instructionSet, invok
eWith, startUptime, startElapsedTime)
        } else {
          console.log("  Not call ProcessList.startProcessLocked")
          return false
        }
      }
    }


    // boolean handleProcessStartedLocked(ProcessRecord app, int pid, boolean usingWrap
per, long expectedStartSeq, boolean procAttached) {
    var handleProcessStartedLockedFunc = ProcessListCls.handleProcessStartedLocked.over
load('com.android.server.am.ProcessRecord', 'int', 'boolean', 'long', 'boolean')
    console.log("handleProcessStartedLockedFunc=" + handleProcessStartedLockedFunc)
    if (handleProcessStartedLockedFunc) {
      handleProcessStartedLockedFunc.implementation = function (app, pid, usingWrapper,
 expectedStartSeq, procAttached) {
        var shouldCallOrigFunc = true
        console.log("ProcessList.handleProcessStartedLocked: app=" + app + ", pid=" + p
id + ", usingWrapper=" + usingWrapper + ", expectedStartSeq=" + expectedStartSeq + ", p
rocAttached=" + procAttached)
        // printProcessRecord(app)

        if(enableNotCallFilter_ProcessList_handleProcessStartedLocked){
          var appStr = app.toString()
          if (appStr.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if (shouldCallOrigFunc) {
```

```
          PrintStack(ThrowableCls)
          return this.handleProcessStartedLocked(app, pid, usingWrapper, expectedStartS
eq, procAttached)
        } else {
          console.log("  Not call ProcessList.handleProcessStartedLocked")
          // return false
          return true
        }

      }
    }

    // ---------------------------------------- com.android.server.am.ContentProviderHe
lper
    var ContentProviderHelperClassName = "com.android.server.am.ContentProviderHelper"
    var ContentProviderHelperCls = Java.use(ContentProviderHelperClassName)
    console.log("ContentProviderHelperCls=" + ContentProviderHelperCls)

    // private ContentProviderHolder getContentProviderImpl(IApplicationThread caller,
String name, IBinder token, int callingUid, String callingPackage, String callingTag, b
oolean stable, int userId)
    var getContentProviderImplFunc = ContentProviderHelperCls.getContentProviderImpl
    if (getContentProviderImplFunc) {
      getContentProviderImplFunc.implementation = function (caller, name, token, callin
gUid, callingPackage, callingTag, stable, userId) {
        var shouldCallOrigFunc = true
        // console.log("ContentProviderHelper.getContentProviderImpl: caller=" + caller
 + ", name=" + name + ", token=" + token + ", callingUid=" + callingUid + ", callingPac
kage=" + callingPackage + ", callingTag=" + callingTag + ", stable=" + stable + ", user
Id=" + userId)
        // PrintStack(ThrowableCls)

        var funcName = "ContentProviderHelper.getContentProviderImpl"
        var funcParaDict = {
          "caller": caller,
          "name": name,
          "token": token,
          "callingUid": callingUid,
          "callingPackage": callingPackage,
          "callingTag": callingTag,
          "stable": stable,
          "userId": userId,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        if(enableNotCallFilter_ContentProviderHelper_getContentProviderImpl){
          // if(callingPackage.includes(CurAppPkgName)){
          if(name.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if (shouldCallOrigFunc) {
          return this.getContentProviderImpl(caller, name, token, callingUid, callingPa
ckage, callingTag, stable, userId)
        } else {
```

```
          console.log("  Not call ContentProviderHelper.getContentProviderImpl")
          return null
        }
      }
    }

    // ---------------------------------------- android.os.Handler
    var HandlerClassName = "android.os.Handler"
    var HandlerCls = Java.use(HandlerClassName)
    console.log("HandlerCls=" + HandlerCls)

    // public void dispatchMessage(@NonNull Message msg)
    var dispatchMessageFunc = HandlerCls.dispatchMessage
    if (dispatchMessageFunc) {
      dispatchMessageFunc.implementation = function (msg) {
        var shouldCallOrigFunc = true

        var mgsStr = msg.toString()
        if(mgsStr.includes(CurAppPkgName)){
          // console.log("Handler.dispatchMessage: msg=" + msg)
          // PrintStack(ThrowableCls)
          var funcName = "Handler.dispatchMessage"
          var funcParaDict = {
            "msg": msg,
          }
          printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

          if(enableNotCallFilter_Handler_dispatchMessage){
            // is not : Handler.dispatchMessage: msg={ when=-927ms what=4104 obj=Applic
ationExitInfo(timestamp=2023/9/19 16:55 pid=3953 realUid=10249 packageUid=10249 definin
gUid=10249 user=0 process=com.wallpaper.hd.funny reason=12 (DEPENDENCY DIED) subreason=
0 (UNKNOWN) status=0 importance=400 pss=33MB rss=132MB description=depends on provider
com.google.android.gms/.phenotype.provider.ConfigurationProvider in dying proc com.goog
le.android.gms.persistent (adj -10000) state=empty trace=null target=com.android.server
.am.AppExitInfoTracker$KillHandler }
            if( mgsStr.includes("ApplicationExitInfo")){
              shouldCallOrigFunc = false
            }
          }
        }

        if (shouldCallOrigFunc) {
          return this.dispatchMessage(msg)
        } else {
          console.log("  Not call Handler.dispatchMessage")
          // return null
          return
        }
      }
    }

    // ---------------------------------------- com.android.server.am.BroadcastQueue
    var BroadcastQueueClassName = "com.android.server.am.BroadcastQueue"
    var BroadcastQueueCls = Java.use(BroadcastQueueClassName)
    console.log("BroadcastQueueCls=" + BroadcastQueueCls)
```

```
    // final void processNextBroadcastLocked(boolean fromMsg, boolean skipOomAdj)
    var processNextBroadcastLockedFunc = BroadcastQueueCls.processNextBroadcastLocked
    if (processNextBroadcastLockedFunc) {
      processNextBroadcastLockedFunc.implementation = function (fromMsg, skipOomAdj) {
        var shouldCallOrigFunc = true
        // console.log("BroadcastQueue.processNextBroadcastLocked: fromMsg=" + fromMsg
+ ", skipOomAdj=" + skipOomAdj)
        // PrintStack(ThrowableCls)
        var funcName = "BroadcastQueue.processNextBroadcastLocked"
        var funcParaDict = {
          "fromMsg": fromMsg,
          "skipOomAdj": skipOomAdj,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        if (shouldCallOrigFunc) {
          return this.processNextBroadcastLocked(fromMsg, skipOomAdj)
        } else {
          console.log("  Not call BroadcastQueue.processNextBroadcastLocked")
          return null
        }
      }
    }

    // ---------------------------------------- com.android.server.am.ActivityManagerSe
rvice
    var curJavaClassName = "com.android.server.am.ActivityManagerService"
    // printClassAllMethodsFields(curJavaClassName)
    var ActivityManagerServiceCls = Java.use(curJavaClassName)
    console.log("ActivityManagerServiceCls=" + ActivityManagerServiceCls)

    // final ProcessRecord startProcessLocked(String processName, ApplicationInfo info,
 boolean knownToBeDead, int intentFlags, HostingRecord hostingRecord, int zygotePolicyF
lags, boolean allowWhileBooting, boolean isolated)
    var amsStartProcessLockedFunc = ActivityManagerServiceCls.startProcessLocked
    if (amsStartProcessLockedFunc) {
      amsStartProcessLockedFunc.implementation = function (processName, info, knownToBe
Dead, intentFlags, hostingRecord, zygotePolicyFlags, allowWhileBooting, isolated) {
        var shouldCallOrigFunc = true
        // console.log("AMS.startProcessLocked: processName=" + processName + ", info="
 + info + ", knownToBeDead=" + knownToBeDead + ", intentFlags=" + intentFlags + ", host
ingRecord=" + hostingRecord + ", zygotePolicyFlags=" + zygotePolicyFlags + ", allowWhil
eBooting=" + allowWhileBooting + ", isolated=" + isolated)
        // PrintStack(ThrowableCls)
        var funcName = "AMS.startProcessLocked"
        var funcParaDict = {
          "processName": processName,
          "info": info,
          "knownToBeDead": knownToBeDead,
          "intentFlags": intentFlags,
          "hostingRecord": hostingRecord,
          "zygotePolicyFlags": zygotePolicyFlags,
          "allowWhileBooting": allowWhileBooting,
          "isolated": isolated,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)
```

```
        if(enableNotCallFilter_AMS_startProcessLocked){
          if(processName.includes(CurAppPkgName)){
            shouldCallOrigFunc = false
          }
        }

        if (shouldCallOrigFunc) {
          return this.startProcessLocked(processName, info, knownToBeDead, intentFlags,
 hostingRecord, zygotePolicyFlags, allowWhileBooting, isolated)
        } else {
          console.log("  Not call AMS.startProcessLocked")
          return null
        }
      }
    }

    // private boolean attachApplicationLocked(@NonNull IApplicationThread thread, int
pid, int callingUid, long startSeq)
    var attachApplicationLockedFunc = ActivityManagerServiceCls.attachApplicationLocked
    console.log("attachApplicationLockedFunc=" + attachApplicationLockedFunc)
    if (attachApplicationLockedFunc) {
      attachApplicationLockedFunc.implementation = function (thread, pid, callingUid, s
tartSeq) {
        // console.log("AMS.attachApplicationLocked: thread=" + thread + ", pid=" + pid
 + ", callingUid=" + callingUid + ", startSeq=" + startSeq)
        // PrintStack(ThrowableCls)
        var funcName = "AMS.attachApplicationLocked"
        var funcParaDict = {
          "thread": thread,
          "pid": pid,
          "callingUid": callingUid,
          "startSeq": startSeq,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        return this.attachApplicationLocked(thread, pid, callingUid, startSeq)
      }
    }

    // public ComponentName startService(IApplicationThread caller, Intent service, Str
ing resolvedType, boolean requireForeground, String callingPackage, String callingFeatu
reId, int userId) throws TransactionTooLargeException {
    var startServiceFunc = ActivityManagerServiceCls.startService
    console.log("startServiceFunc=" + startServiceFunc)
    if (startServiceFunc) {
      startServiceFunc.implementation = function (caller, service, resolvedType, requir
eForeground, callingPackage, callingFeatureId, userId) {
        var shouldCallOrigFunc = true
        // console.log("AMS.startService: caller=" + caller + ", service=" + service +
", resolvedType=" + resolvedType + ", requireForeground=" + requireForeground + ", call
ingPackage=" + callingPackage + ", callingFeatureId=" + callingFeatureId + ", userId="
+ userId)
        // PrintStack(ThrowableCls)

        var isCurApp = false
```

```
        if (service){
          // printIntentInfo(service)
          var serviceStr = service.toString()
          console.log("serviceStr=" + serviceStr)
          // serviceStr=Intent { cmp=com.wallpaper.hd.funny/com.w.thsz.s.Service108 }
          if (serviceStr.includes(CurAppPkgName)) {
            isCurApp = true
          }
        }

        if(isCurApp){
          var funcName = "AMS.startService"
          var funcParaDict = {
            "caller": caller,
            "service": service,
            "resolvedType": resolvedType,
            "requireForeground": requireForeground,
            "callingPackage": callingPackage,
            "callingFeatureId": callingFeatureId,
            "userId": userId,
          }
          // console.log("will call printFunctionCallAndStack: funcName=" + funcName +
", funcParaDict=" + toJsonStr(funcParaDict) + ", ThrowableCls=" + ThrowableCls)
          printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

          var serviceHasFileDescriptors = service.hasFileDescriptors()
          console.log("serviceHasFileDescriptors=" + serviceHasFileDescriptors)

          if(enableNotCallFilter_AMS_startService){
            shouldCallOrigFunc = false
          }
        }

        if (shouldCallOrigFunc) {
          // return this.startService(caller, service, resolvedType, requireForeground,
 callingPackage, callingFeatureId, userId)
          var retComponentName = this.startService(caller, service, resolvedType, requi
reForeground, callingPackage, callingFeatureId, userId)

          if(isCurApp){
            console.log("retComponentName=" + retComponentName)
          }

          return retComponentName
        } else {
          console.log("  Not call AMS.startService")
          return null
        }

      }
    }

    // // !!! Note: hook ActivityManagerService.onTransact always cause Android CRUSH a
nd REBOOT
    // // public boolean onTransact(int code, Parcel data, Parcel reply, int flags)
```

```
    // var amsOnTransactFunc = ActivityManagerServiceCls.onTransact
    // console.log("amsOnTransactFunc=" + amsOnTransactFunc)
    // if (amsOnTransactFunc) {
    //   amsOnTransactFunc.implementation = function (code, dataParcel, replyParcel, fl
ags) {
    //     // if (ValidTransactCodeList.includes(code)) {
    //     //   var datParcelStr = tryReadParcelString(dataParcel)
    //     //   if (datParcelStr) {
    //     //     console.log("AMS onTransact: code=" + code + ", dataParcel=" + dataPa
rcel + ",datParcelStr=" + datParcelStr + ", replyParcel=" + replyParcel + ", flags=" +
flags)
    //     //     PrintStack(ThrowableCls)
    //     //   }
    //     // }

    //     // console.log("AMS.onTransact: code=" + code + ", dataParcel=" + dataParcel
 + ", replyParcel=" + replyParcel + ", flags=" + flags)
    //     return this.onTransact(code, dataParcel, replyParcel, flags)
    //   }
    // }

    // // Note: will cause crash & reboot, so temp not hook
    // // public boolean startInstrumentation(ComponentName className, String profileFi
le, int flags, Bundle arguments, IInstrumentationWatcher watcher, IUiAutomationConnecti
on uiAutomationConnection, int userId, String abiOverride)
    // var startInstrumentationFunc = ActivityManagerServiceCls.startInstrumentation
    // console.log("startInstrumentationFunc=" + startInstrumentationFunc)
    // if (startInstrumentationFunc) {
    //   // startInstrumentationFunc.implementation = function (className, profileFile,
 flags, arguments, watcher, uiAutomationConnection, userId, abiOverride) {
    //   startInstrumentationFunc.implementation = function (className, profileFile, fl
ags, arguments1, watcher, uiAutomationConnection, userId, abiOverride) {
    //     console.log("typeof flags=" + (typeof flags) + ",typeof userId=" + (typeof u
serId))
    //     // var Integer = Java.use("java.lang.Integer")
    //     // var flagsInt = Integer.valueOf(flags)
    //     // var userIdInt = Integer.valueOf(userId)
    //     // console.log("typeof flagsInt=" + (typeof flagsInt) + ",typeof userIdInt="
 + (typeof userIdInt))

    //     console.log("className=" + className + ", profileFile=" + profileFile + ", f
lags=" + flags + ", arguments1=" + arguments1 + ", watcher=" + watcher + ", uiAutomatio
nConnection=" + uiAutomationConnection + ", userId=" + userId + ", abiOverride=" + abiO
verride)
    //     PrintStack(ThrowableCls)
    //     // return this.startInstrumentation(className, profileFile, flags, arguments
, watcher, uiAutomationConnection, userId, abiOverride)
    //     return this.startInstrumentation(className, profileFile, flags, arguments1,
watcher, uiAutomationConnection, userId, abiOverride)
    //     // return this.startInstrumentation(className, profileFile, flagsInt, argume
nts1, watcher, uiAutomationConnection, userIdInt, abiOverride)
    //   }
    // }

    // // public final void com.android.server.am.ActivityManagerService.finishForceSto
pPackageLocked(java.lang.String,int)
```

```
    // // private void finishForceStopPackageLocked(final String packageName, int uid) {

    // var finishForceStopPackageLockedFunc = ActivityManagerServiceCls.finishForceStop
PackageLocked
    // console.log("finishForceStopPackageLockedFunc=" + finishForceStopPackageLockedFu
nc)
    // if (finishForceStopPackageLockedFunc) {
    //   finishForceStopPackageLockedFunc.implementation = function (packageName, uid) {

    //     PrintStack(ThrowableCls)
    //     return this.finishForceStopPackageLocked(packageName, uid)
    //   }
    // }

    // public void com.android.server.am.ActivityManagerService.forceStopPackage(java.l
ang.String,int)
    // public void forceStopPackage(final String packageName, int userId) {
    var amsForceStopPackageFunc = ActivityManagerServiceCls.forceStopPackage
    console.log("amsForceStopPackageFunc=" + amsForceStopPackageFunc)
    if (amsForceStopPackageFunc) {
      amsForceStopPackageFunc.implementation = function (packageName, userId) {
        PrintStack(ThrowableCls)
        return this.forceStopPackage(packageName, userId)
      }
    }

    // public final void com.android.server.am.ActivityManagerService.forceStopPackageL
ocked(java.lang.String,int,java.lang.String)
    // private void forceStopPackageLocked(final String packageName, int uid, String re
ason) {
    var forceStopPackageLockedFunc3 = ActivityManagerServiceCls.forceStopPackageLocked.
overload('java.lang.String', 'int', 'java.lang.String')
    console.log("forceStopPackageLockedFunc3=" + forceStopPackageLockedFunc3)
    if (forceStopPackageLockedFunc3) {
      forceStopPackageLockedFunc3.implementation = function (packageName, uid, reason) {

        PrintStack(ThrowableCls)
        return this.forceStopPackageLocked(packageName, uid, reason)
      }
    }

    // public final boolean com.android.server.am.ActivityManagerService.forceStopPacka
geLocked(java.lang.String,int,boolean,boolean,boolean,boolean,boolean,int,java.lang.Str
ing)
    // final boolean forceStopPackageLocked(String packageName, int appId, boolean call
erWillRestart, boolean purgeCache, boolean doit, boolean evenPersistent, boolean uninst
alling, int userId, String reason) {
    var forceStopPackageLockedFunc9 = ActivityManagerServiceCls.forceStopPackageLocked.
overload('java.lang.String', 'int', 'boolean', 'boolean', 'boolean', 'boolean', 'boolea
n', 'int', 'java.lang.String')
    console.log("forceStopPackageLockedFunc9=" + forceStopPackageLockedFunc9)
    if (forceStopPackageLockedFunc9) {
      forceStopPackageLockedFunc9.implementation = function (packageName, appId, caller
WillRestart, purgeCache, doit, evenPersistent, uninstalling, userId, reason) {
        PrintStack(ThrowableCls)
        return this.forceStopPackageLocked(packageName, appId, callerWillRestart, purge
```

```
Cache, doit, evenPersistent, uninstalling, userId, reason)
      }
    }


    // ---------------------------------------- android.app.ActivityManager
    var ActivityManagerCls = Java.use("android.app.ActivityManager")
    console.log("ActivityManagerCls=" + ActivityManagerCls)

    // public void android.app.ActivityManager.forceStopPackage(java.lang.String)
    // public void forceStopPackage(String packageName) {
    var amForceStopPackageFunc = ActivityManagerCls.forceStopPackage
    console.log("amForceStopPackageFunc=" + amForceStopPackageFunc)
    if (amForceStopPackageFunc) {
      amForceStopPackageFunc.implementation = function (packageName) {
        PrintStack(ThrowableCls)
        return this.forceStopPackage(packageName)
      }
    }

    // // ---------------------------------------- com.android.server.wm.ActivityStarter

    // var ActivityStarterCls = Java.use("com.android.server.wm.ActivityStarter")
    // console.log("ActivityStarterCls=" + ActivityStarterCls)

    // var executeRequestFunc = ActivityStarterCls.executeRequest
    // // var executeRequestFunc = ActivityStarterCls._executeRequest
    // console.log("executeRequestFunc=" + executeRequestFunc)
    // if (executeRequestFunc) {
    //   executeRequestFunc.implementation = function (request) {
    //     // 打印当前调用堆栈信息
    //     let newThrowable = Throwable.$new()
    //     console.log("newThrowable=" + newThrowable)
    //     let stackStr = curLog.getStackTraceString(newThrowable)
    //     console.log("stackStr=" + stackStr)
    //     return this.executeRequest(request)
    //   }
    // }

    // // public void android.app.ActivityManager.forceStopPackageAsUser(java.lang.Stri
ng,int)
    // // public void forceStopPackageAsUser(String packageName, int userId) {
    // var forceStopPackageAsUserFunc = ActivityManagerCls.forceStopPackageAsUser
    // console.log("forceStopPackageAsUserFunc=" + forceStopPackageAsUserFunc)
    // if (forceStopPackageAsUserFunc) {
    //   forceStopPackageAsUserFunc.implementation = function (packageName, userId) {
    //     PrintStack(ThrowableCls)
    //     return this.forceStopPackageAsUser(packageName, userId)
    //   }
    // }


    // // ---------------------------------------- com.android.server.pm.Settings
    // var SettingsCls = Java.use("com.android.server.pm.Settings")
    // console.log("SettingsCls=" + SettingsCls)
```

```
    // /* static @NonNull PackageSetting createNewSetting(
    //         String pkgName,
    //         PackageSetting originalPkg,
    //         PackageSetting disabledPkg,
    //         String realPkgName,
    //         SharedUserSetting sharedUser,
    //         File codePath,
    //         String legacyNativeLibraryPath,
    //         String primaryCpuAbi,
    //         String secondaryCpuAbi,
    //         long versionCode,
    //         int pkgFlags,
    //         int pkgPrivateFlags,
    //         UserHandle installUser,
    //         boolean allowInstall,
    //         boolean instantApp,
    //         boolean virtualPreload,
    //         UserManagerService userManager,
    //         String[] usesSdkLibraries,
    //         long[] usesSdkLibrariesVersions,
    //         String[] usesStaticLibraries,
    //         long[] usesStaticLibrariesVersions,
    //         Set<String> mimeGroupNames,
    //         @NonNull UUID domainSetId
    //     ) {
    // */

    // var createNewSettingFunc = SettingsCls.createNewSetting
    // console.log("createNewSettingFunc=" + createNewSettingFunc)
    // if (createNewSettingFunc) {
    //   createNewSettingFunc.implementation = function (pkgName, originalPkg, disabled
Pkg, realPkgName, sharedUser, codePath, legacyNativeLibraryPath, primaryCpuAbi, seconda
ryCpuAbi, versionCode, pkgFlags, pkgPrivateFlags, installUser, allowInstall, instantApp
, virtualPreload, userManager, usesSdkLibraries, usesStaticLibraries, usesStaticLibrari
esVersions, mimeGroupNames, domainSetId) {
    //     PrintStack(ThrowableCls)
    //     return this.createNewSetting(pkgName, originalPkg, disabledPkg, realPkgName,
 sharedUser, codePath, legacyNativeLibraryPath, primaryCpuAbi, secondaryCpuAbi, version
Code, pkgFlags, pkgPrivateFlags, installUser, allowInstall, instantApp, virtualPreload,
 userManager, usesSdkLibraries, usesStaticLibraries, usesStaticLibrariesVersions, mimeG
roupNames, domainSetId)
    //   }
    // }

  })
}

setImmediate(hookForceStop)
```

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frida-trace

此处介绍 `frida-trace` 的实际使用案例，供参考。

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iOS的ObjC

此处介绍用 `frida-trace` 去调试 `iOS` 的 `ObjC` 的类和函数的实际案例，供参考。

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akd中Apple账号验证过程

此处去记录 `frida-trace` 追踪 `akd` 中Apple账号验证过程：

- 设备：
  - `iOS 15.0 的 iPhone8`
    - `palera1n` 的rootful普通越狱

去追踪调试：

- 设置Preferences中，点击登录Apple账号
  - 输入账号，点击下一步

的Apple账号验证过程中，函数调用的过程的结果

frida-trace命令

```
frida-trace -U -n akd -O akdObjcMethods.txt
```

Option文件 `akdObjcMethods.txt` 内容

```
-m "*[AA* *]"
-m "*[AK* *]"
-m "*[AS* *]"
-m "*[NSXPC* *]"
-M "-[NSXPC*coder *]"
-M "-[NSXPCConnection replacementObjectForEncoder:object:]"
```

输出

截图

完整的截图如下：

```
root@192.168.2.13 (ssh)  ⌘1   ~ (-zsh)  ⌘2   frida-trace (python)  ⌘3
20%   10 GB   3.1 kB↓   2.0 kB↑   4/13, 09:59
-[NSXPCStore sqlCore]: Loaded handler at "/Users/crifan/dev/dev_root/iosReverse/AppleStore/AuthKit_akd/dynamicDebug/frida/scripts/__handlers__/NSXPCStore/sqlCore.js"
-[NSXPCStore connectionManager]: Loaded handler at "/Users/crifan/dev/dev_root/iosReverse/AppleStore/AuthKit_akd/dynamicDebug/frida/scripts/__handlers__/NSXPCStore/connectionManager.js"
-[NSXPCStore dealloc]: Loaded handler at "/Users/crifan/dev/dev_root/iosReverse/AppleStore/AuthKit_akd/dynamicDebug/frida/scripts/__handlers__/NSXPCStore/dealloc.js"
-[NSXPCStore setIdentifier:]: Loaded handler at "/Users/crifan/dev/dev_root/iosReverse/AppleStore/AuthKit_akd/dynamicDebug/frida/scripts/__handlers__/NSXPCStore/setIdentifier_.js"
Started tracing 6145 functions. Press Ctrl+C to stop.
           /* TID 0x2ee3 */
 44503 ms  -[NSXPCListener serviceName]
 44503 ms  -[NSXPCConnection init]
 44503 ms  -[NSXPCListener delegate]
 44503 ms  -[NSXPCListener delegate]
 44503 ms  -[AKDaemonConnectionManager listener:0x126906200 shouldAcceptNewConnection:0x126b0da50]
 44503 ms     | -[AKClient initWithConnection:0x126b0da50]
 44503 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x126b05640 logging:0x16b31a598]
 44503 ms     |    | -[AKClient hasWriteAccess]
 44503 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 44503 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 44503 ms     |    |    |         | -[NSXPCConnection auditToken]
 44505 ms     |    | -[AKClient description]
 44505 ms     |    |    | -[AKClient name]
 44505 ms     |    |    |    | -[NSXPCConnection processIdentifier]
 44505 ms     |    |    | -[NSXPCConnection processIdentifier]
 44505 ms     | -[AKAppleIDAuthenticationService initWithClient:0x126b05640]
 44505 ms     |    | -[AKAppleIDAuthenticationService initWithProxy:0x126b16890]
 44505 ms     |    |    | -[AKAppleIDAuthenticationService init]
 44505 ms     |    |    |    +[AKAccountManager sharedInstance]
 44505 ms     |    |    |    |    +[AKAccountManager isAccountsFrameworkAvailable]
 44505 ms     |    |    |    +[AKAuthenticationUILiaison sharedInstance]
 44505 ms     |    |    |    +[AKAuthenticationTrafficController sharedInstance]
 44505 ms     |    |    |    -[AKAuthenticationUILiaison surrogateManager]
 44505 ms     |    |    |    -[AKAuthenticationTrafficController setSurrogateManager:0x125d15810]
 44506 ms     | -[NSXPCConnection setExportedObject:0x126b0fa00]
 44506 ms     | +[AKAppleIDAuthenticationDaemonInterface XPCInterface]
 44506 ms     | -[NSXPCConnection setExportedInterface:0x1268141a0]
 44506 ms     | +[AKAppleIDAuthenticationClientInterface XPCInterface]
 44506 ms     | -[NSXPCConnection setRemoteObjectInterface:0x1269121f0]
 44506 ms     | -[NSXPCConnection resume]
 44506 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126b0fa40 flags:0x21]
 44506 ms     | -[NSXPCCoder init]
 44506 ms     | -[NSXPCInterface _selectorIsAllowed:0x19dd2ca94 isReply:0x0 methodSignature:0x16b31a0f0 allowedClasses:0x16b31a0f8]
 44506 ms     | -[NSXPCCoder dealloc]
 44506 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19dd2ca94]
 44506 ms     | -[AKAppleIDAuthenticationService fetchURLBagFromCache:0x0 altDSID:0x0 completion:0x16b31a2c0]
 44506 ms     |    | +[AKURLBagService sharedBagService]
 44506 ms     |    | -[AKURLBagService urlBagFromCache:0x0 altDSID:0x0 error:0x16b31a0f8]
 44506 ms     |    |    | -[AKURLBagService _cachedURLBagForAltDSID:0x0]
 44506 ms     |    | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19dd2ca94 reply:0x1]
 44506 ms     |    | -[NSXPCCoder init]
 44507 ms     |    | -[NSXPCCoder dealloc]
 44508 ms  -[NSXPCConnection invalidationHandler]
 44508 ms  -[NSXPCConnection _additionalInvalidationHandler]
 44508 ms  -[NSXPCConnection setInvalidationHandler:0x0]
 44508 ms  -[NSXPCConnection setInterruptionHandler:0x0]
 44508 ms  -[NSXPCConnection setExportedObject:0x0]
 44508 ms     | -[AKAppleIDAuthenticationService .cxx_destruct]
 44508 ms     |    | -[AKClient .cxx_destruct]
 44508 ms  -[NSXPCConnection dealloc]
           /* TID 0x2ee7 */
 83869 ms  -[NSXPCListener serviceName]
 83870 ms  -[NSXPCConnection init]
 83870 ms  -[NSXPCListener delegate]
 83870 ms  -[NSXPCListener delegate]
 83870 ms  -[AKDaemonConnectionManager listener:0x126906200 shouldAcceptNewConnection:0x126947dd0]
root@192.168.2.13 (ssh)  ⌘1   ~ (-zsh)  ⌘2   frida-trace (python)  ⌘3
56%   10 GB   2.0 kB↓   1.0 kB↑   4/13, 09:59
 83870 ms  -[AKDaemonConnectionManager listener:0x126906200 shouldAcceptNewConnection:0x126947dd0]
 83871 ms     | -[AKClient initWithConnection:0x126947dd0]
 83871 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x1269481d0 logging:0x16b3a6598]
 83871 ms     |    | -[AKClient hasWriteAccess]
 83871 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 83871 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 83871 ms     |    |    |         | -[NSXPCConnection auditToken]
 83874 ms     |    | -[AKClient description]
 83874 ms     |    |    | -[AKClient name]
 83874 ms     |    |    |    | -[NSXPCConnection processIdentifier]
 83874 ms     |    |    | -[NSXPCConnection processIdentifier]
 83874 ms     | -[AKAppleIDAuthenticationService initWithClient:0x1269481d0]
 83874 ms     |    | -[AKAppleIDAuthenticationService initWithProxy:0x125d07ea0]
 83875 ms     |    |    | -[AKAppleIDAuthenticationService init]
 83875 ms     |    |    |    +[AKAccountManager sharedInstance]
 83875 ms     |    |    |    |    +[AKAccountManager isAccountsFrameworkAvailable]
 83875 ms     |    |    |    +[AKAuthenticationUILiaison sharedInstance]
 83875 ms     |    |    |    +[AKAuthenticationTrafficController sharedInstance]
 83875 ms     |    |    |    -[AKAuthenticationUILiaison surrogateManager]
 83875 ms     |    |    |    -[AKAuthenticationTrafficController setSurrogateManager:0x125d15810]
 83876 ms     | -[NSXPCConnection setExportedObject:0x125d88d50]
 83876 ms     | +[AKAppleIDAuthenticationDaemonInterface XPCInterface]
 83876 ms     | -[NSXPCConnection setExportedInterface:0x1268141a0]
 83876 ms     | +[AKAppleIDAuthenticationClientInterface XPCInterface]
 83876 ms     | -[NSXPCConnection setRemoteObjectInterface:0x1269121f0]
 83877 ms     | -[NSXPCConnection resume]
 83877 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x125d7e8f0 flags:0x21]
 83878 ms     | -[NSXPCCoder init]
 83878 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d1122fb isReply:0x0 methodSignature:0x16b3a5780 allowedClasses:0x16b3a5788]
 83878 ms     | +[AKAppleIDAuthenticationContext supportsSecureCoding]
 83878 ms     | -[AKAppleIDAuthenticationContext initWithCoder:0x128808e00]
 83879 ms     | -[NSXPCCoder dealloc]
 83879 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d1122fb]
 83879 ms     | -[AKAppleIDAuthenticationService authenticateWithContext:0x126a0bf00 completion:0x16b3a5950]
 83879 ms     |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83879 ms     |    | -[AKAppleIDAuthenticationContext serviceType]
 83879 ms     |    | -[AKClient isPermittedForInteractiveAuthOnLimitedContext]
 83879 ms     |    |    | -[AKClient _permittedProcessNamesForInteractiveAuthOnLimitedContext]
 83879 ms     |    |    | -[AKClient name]
 83880 ms     |    | -[AKAppleIDAuthenticationContext isContextEligibleForSilentAuthCoercion]
 83880 ms     |    |    | -[AKAppleIDAuthenticationContext _proxiedAppName]
 83880 ms     |    |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83880 ms     |    | -[AKAppleIDAuthenticationContext username]
 83880 ms     |    | -[AKAppleIDAuthenticationContext _password]
 83881 ms     |    | -[AKAuthenticationTrafficController beginAuthenticationWithContext:0x126a0bf00 client:0x1269481d0 clearanceHandler:0x16b3a57a8]
           /* TID 0x2767 */
 83882 ms  -[AKClient bundleID]
 83882 ms     | -[NSXPCConnection processIdentifier]
 83883 ms     | -[NSXPCConnection processIdentifier]
 83883 ms  -[AKAuthenticationTrafficController _addCachedPasswordInContext:0x126a0bf00]
 83883 ms     | -[AKAppleIDAuthenticationContext serviceType]
 83883 ms     | -[AKAppleIDAuthenticationContext isContextEligibleForSilentAuth]
 83883 ms     |    | -[AKAppleIDAuthenticationContext authenticationType]
 83883 ms     |    | -[AKAppleIDAuthenticationContext shouldPromptForPasswordOnly]
 83884 ms     |    | -[AKAppleIDAuthenticationContext isEphemeral]
 83884 ms     |    | -[AKAppleIDAuthenticationContext isUsernameEditable]
 83884 ms  -[AKClient bundleID]
 83884 ms  -[AKTrafficClearenceRequest setClearanceHandler:0x126a19640]
 83884 ms  -[AKTrafficClearenceRequest setContext:0x126a0bf00]
 83884 ms  -[AKTrafficClearenceRequest setClientBundleID:0x1f7d89e60]
 83884 ms  -[AKAuthenticationTrafficController _shouldClearRequest:0x126a0be60 withClient:0x1269481d0]
 83884 ms     | -[AKTrafficClearenceRequest context]
root@192.168.2.13 (ssh)  ⌘1   ~ (-zsh)  ⌘2   frida-trace (python)  ⌘3
49%   10 GB   2.0 kB↓   2.0 kB↑   4/13, 10:00
 83884 ms     | -[AKTrafficClearenceRequest context]
 83884 ms     | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83884 ms     | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83884 ms     | -[AKAuthenticationTrafficController surrogateManager]
 83884 ms     | -[AKAuthenticationSurrogateManager isSurrogateAuthInProgressForClient:0x1269481d0]
 83884 ms     |    | -[AKAuthenticationSurrogateManager _fetchSurrogateForClient:0x1269481d0]
 83885 ms     |    |    | -[AKAuthenticationSurrogateManager inProgressSurrogates]
 83885 ms     | -[AKAppleIDAuthenticationContext authenticationType]
 83885 ms     | -[AKAuthenticationTrafficController _hasActiveAppAuths]
 83885 ms     |    | -[AKAuthenticationTrafficController _hasValuesInMap:0x126816150]
 83885 ms     | -[AKAuthenticationTrafficController _hasActiveDaemonAuths]
 83885 ms     |    | -[AKAuthenticationTrafficController _hasValuesInMap:0x126816170]
 83885 ms  -[AKAuthenticationTrafficController _tq_invokeTrafficRequest:0x126a0be60]
 83885 ms     | -[AKTrafficClearenceRequest clientBundleID]
 83885 ms     | -[AKTrafficClearenceRequest context]
 83885 ms     | -[AKTrafficClearenceRequest context]
 83885 ms     | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83886 ms  -[AKTrafficClearenceRequest clearanceHandler]
 83886 ms  -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83886 ms  -[AKAppleIDAuthenticationService _authenticateWithContext:0x126a0bf00 completion:0x16b31ad40]
 83886 ms     | -[AKAppleIDAuthenticationContext needsRepair]
 83886 ms     | -[AKAppleIDAuthenticationContext needsCredentialRecovery]
 83886 ms     | -[AKAppleIDAuthenticationContext needsNewAppleID]
 83886 ms     | -[AKAppleIDAuthenticationContext needsNewChildAccount]
 83886 ms     | -[AKAppleIDAuthenticationContext needsPasswordChange]
 83886 ms     | -[AKAppleIDAuthenticationContext needsSecurityUpgradeUI]
 83886 ms     | -[AKAppleIDAuthenticationService _performAuthenticationWithContext:0x126a0bf00 completion:0x16b31ad40]
 83886 ms     |    | -[AKAppleIDAuthenticationService _isInteractiveAuthRequiredForContext:0x126a0bf00]
 83886 ms     |    |    | -[AKAppleIDAuthenticationContext authenticationType]
 83887 ms     |    | -[AKAppleIDAuthenticationService _attemptBiometricOrPasscodeAuthWithContext:0x126a0bf00 completion:0x16b31ad40]
 83887 ms     |    |    | -[AKAppleIDAuthenticationContext isContextEligibleForBiometricOrPasscodeAuth]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _isVerifyCredentialReasonEligibleForBiometricOrPasscodeAuth]
 83887 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext verifyCredentialReason]
 83887 ms     |    |    |    +[AKConfiguration sharedConfiguration]
 83887 ms     |    |    |    | -[AKConfiguration shouldAllowExperimentalMode]
 83887 ms     |    |    |    |    | -[AKConfiguration configurationValueForKey:0x1ea6effb8]
 83887 ms     |    |    | -[AKAppleIDAuthenticationService _attemptInteractiveAuthWithContext:0x126a0bf00 completion:0x16b31ad40]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext username]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _password]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _shouldSkipInitialReachabilityCheck]
           /* TID 0x2ee7 */
 83889 ms  -[NSXPCListener serviceName]
 83889 ms  -[NSXPCConnection init]
 83889 ms  -[NSXPCListener delegate]
```

```
83889 ms  -[NSXPCListener delegate]
83889 ms  -[AKDaemonConnectionManager listener:0x126907500 shouldAcceptNewConnection:0x126a10460]
83889 ms  | -[AKClient initWithConnection:0x126a10460]
83889 ms  | -[AKDaemonConnectionManager shouldAllowClient:0x126a0c890 logging:0x16b3a6598]
83889 ms  | | -[AKClient hasWriteAccess]
83889 ms  | | | -[AKClient _boolValueForEntitlement:0x10503a2b0]
83889 ms  | | | | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
83889 ms  | | | | | -[NSXPCConnection auditToken]
        /* TID 0x2767 */
83889 ms  | | | | -[AKAppleIDAuthenticationService _performInteractiveAuthWithContext:0x126a0bf00 completion:0x16b31ad40]
83890 ms  | | | | | -[AKAppleIDAuthenticationService refreshAuthMetadataWithContext:0x126a0bf00 completion:0x16b31ab38]
83890 ms  | | | | | | -[AKAppleIDAuthenticationService _refreshLocalAccountAndUpdateContext:0x126a0bf00 completion:0x16b31aac8]
83890 ms  | | | | | | | -[AKAppleIDAuthenticationContext _shouldRefreshAccountAndUpdateContext]
83890 ms  | | | | | | | -[AKAppleIDAuthenticationService _updateAltDSIDAndUsername:0x126a0bf00]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext altDSID]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext DSID]
83890 ms  | | | | | | | -[AKAppleIDAuthenticationContext altDSID]
```

```
⌥⌘1  root@192.168.2.13 (ssh)  ⌘1  ~ (-zsh)  ⌘2  frida-trace (python)  ⌘3
53%  10 GB  2.0 kB↓  2.0 kB↑  4/13, 10:00
83890 ms  | | | | | | | -[AKAppleIDAuthenticationContext altDSID]
83890 ms  | | | | | | | -[AKAppleIDAuthenticationService _refreshAuthModeIfNecessaryForContext:0x126a0bf00 completion:0x16b31a998]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext needsNewAppleID]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext needsNewChildAccount]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext needsCredentialRecovery]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext needsPasswordChange]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext username]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext username]
83890 ms  | | | | | | | | -[AKAppleIDAuthenticationContext authenticationType]
83891 ms  | | | | | | | | -[AKAppleIDAuthenticationContext authWitAccount:0x0]
83891 ms  | | | | | | | | | -[AKAppleIDAuthenticationContext altDSID]
83891 ms  | | | | | | | | | -[AKAppleIDAuthenticationContext DSID]
83891 ms  | | | | | | | | | -[AKAppleIDAuthenticationContext username]
83891 ms  | | | | | | | | | +[AKAccountManager sharedInstance]
83891 ms  | | | | | | | | | | +[AKAccountManager isAccountsFrameworkAvailable]
83891 ms  | | | | | | | | | -[AKAccountManager authKitAccountWithAppleID:0x126a053b0]
83891 ms  | | | | | | | | | | -[AKAccountManager authKitAccountType]
83891 ms  | | | | | | | | | | -[NSXPCConnection initWithMachServiceName:0x1e8ff16b8 options:0x0]
83891 ms  | | | | | | | | | | | -[ACTrackedXPCConnection init]
83891 ms  | | | | | | | | | | | | -[NSXPCConnection init]
        /* TID 0x2ee7 */
83891 ms  | | -[AKClient description]
83891 ms  | | | -[AKClient name]
83891 ms  | | | | -[NSXPCConnection processIdentifier]
83892 ms  | | -[NSXPCConnection processIdentifier]
        /* TID 0x2767 */
83892 ms  | | | | | | | | | | -[NSXPCConnection setRemoteObjectInterface:0x125e0f350]
83892 ms  | | | | | | | | | | +[NSXPCInterface interfaceWithProtocol:0x1f9747d58]
        /* TID 0x2ee7 */
83892 ms  | -[AKAnisetteProvisioningService initWithClient:0x126a0c890]
83892 ms  | | +[AKAbsintheSigner sharedSigner]
        /* TID 0x2767 */
83892 ms  | | | | | | | | | | -[NSXPCInterface init]
        /* TID 0x2ee7 */
83892 ms  | | +[AKAttestationSigner sharedSigner]
83892 ms  | -[NSXPCConnection setExportedObject:0x126a212f0]
        /* TID 0x2767 */
83892 ms  | | | | | | | | | | -[NSXPCInterface setProtocol:0x1f9747d58]
        /* TID 0x2ee7 */
83892 ms  | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
83892 ms  | -[NSXPCConnection setExportedInterface:0x125d16640]
        /* TID 0x2767 */
83892 ms  | | | | | | | | | | -[NSXPCConnection setExportedInterface:0x126b10170]
83892 ms  | | | | | | | | | | -[NSXPCConnection setExportedObject:0x126b159f0]
        /* TID 0x2ee7 */
83892 ms  | +[AKAnisetteProvisioningClientInterface XPCInterface]
83892 ms  | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
83892 ms  | -[NSXPCConnection resume]
        /* TID 0x2767 */
83892 ms  | | | | | | | | | | -[NSXPCConnection setInterruptionHandler:0x16b31a2d8]
83892 ms  | | | | | | | | | | -[NSXPCConnection setInvalidationHandler:0x16b31a2b0]
83892 ms  | | | | | | | | | | -[NSXPCConnection resume]
        /* TID 0x2ee7 */
83893 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126a21320 flags:0x21]
83893 ms  | -[NSXPCCoder init]
83893 ms  | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSignature:0x16b3a60d0 allowedClasses:0x16b3a60d8]
83893 ms  | -[NSXPCCoder dealloc]
83893 ms  | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
83893 ms  | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b3a62a0]
83893 ms  | | -[AKClient hasInternalPrivateAccess]
83894 ms  | | | -[AKClient hasInternalPrivateEntitlementAccess]
        /* TID 0x2767 */
```

```
⌥⌘1  root@192.168.2.13 (ssh)  ⌘1  ~ (-zsh)  ⌘2  frida-trace (python)  ⌘3
64%  10 GB  1.0 kB↓  1.0 kB↑  4/13, 10:00
83894 ms  | | | -[AKClient hasInternalPrivateEntitlementAccess]
        /* TID 0x2767 */
83894 ms  | | | | | | | | | | -[NSXPCConnection synchronousRemoteObjectProxyWithErrorHandler:0x16b31a410]
83894 ms  | | | | | | | | | | | -[NSXPCConnection _remoteObjectInterfaceClass]
83894 ms  | | | | | | | | | | | | -[NSXPCInterface _customSubclass]
        /* TID 0x2ee7 */
83894 ms  | | | | -[AKClient hasInternalAccess]
83894 ms  | | | | | -[AKClient hasOwnerAccess]
83894 ms  | | | | | | -[AKClient _boolValueForEntitlement:0x10503a290]
        /* TID 0x2767 */
83894 ms  | | | | | | | | | | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19cefc453]
83894 ms  | | | | | | | | | | -[NSXPCConnection _sendInvocation:0x16b31a130 orArguments:0x0 count:0x0 methodSignature:0x9d85aafdd9ffdaff selector:0x19cefc453 withProxy:0x126b17cd0]
83894 ms  | | | | | | | | | | | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19cefc453 reply:0x0]
        /* TID 0x2ee7 */
83894 ms  | | | | | | -[NSXPCConnection valueForEntitlement:0x10503a290]
83894 ms  | | | | | | | -[NSXPCConnection auditToken]
        /* TID 0x2767 */
83894 ms  | | | | | | | | | | -[NSXPCCoder init]
83895 ms  | | | | | | | | | | -[NSXPCCoder dealloc]
83895 ms  | | | | | | | | | | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x19cefc453]
        /* TID 0x2ee7 */
83897 ms  | | | | | -[AKClient _boolValueForEntitlement:0x10503a270]
83897 ms  | | | | | | -[NSXPCConnection valueForEntitlement:0x10503a270]
83897 ms  | | | | | | | -[NSXPCConnection auditToken]
83897 ms  | | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b3a62a0]
83897 ms  | | | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
83897 ms  | | | | -[AKAnisetteProvisioningService _nativeAnisetteService]
83897 ms  | | | | | -[AKNativeAnisetteService initWithClient:0x126a0c890]
83897 ms  | | | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNecessary:0x1 withCompletion:0x16b3a62a0]
83897 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
83897 ms  | +[AKURLBag bagForAltDSID:0x0]
83897 ms  | | +[AKURLBag sharedBag]
83897 ms  | -[AKURLBag lastKnownIDMSEnvironment]
83897 ms  | | +[AKConfiguration sharedConfiguration]
83897 ms  | | -[AKConfiguration lastKnownIDMSEnvironment]
83897 ms  | | | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
83898 ms  | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
83898 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xffffffffffffffffe withError:0x16b3a68a8]
83898 ms  | +[AKADIProxy getIDMSRoutingInfo:0x16b3a6838 forDSID:0xffffffffffffffffe]
        /* TID 0x2767 */
83901 ms  | | | | | | | | | | | | -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x126a21320 sequence:0x1 replyInfo:0x126b05970]
83901 ms  | | | | | | | | | | | | | -[NSXPCCoder init]
83902 ms  | | | | | | | | | | | | | -[NSXPCInterface _selectorIsAllowed:0x19cefc453 isReply:0x1 methodSignature:0x16b319260 allowedClasses:0x16b319268]
83902 ms  | | | | | | | | | | | | -[NSXPCCoder dealloc]
83902 ms  | | | | | | | | | | -[AKAccountManager shouldUpdateAuthModeForAccount:0x126a20e20]
83902 ms  | | | | | | | | | | -[AKAppleIDAuthenticationService _refreshAuthModeForContext:0x126a0bf00 completion:0x16b31a998]
83902 ms  | | | | | | | | | | | -[AKAppleIDAuthenticationService fetchAuthModeWithContext:0x126a0bf00 completion:0x16b31a8b8]
83902 ms  | | | | | | | | | | | | -[AKClient hasInternalPrivateAccess]
83902 ms  | | | | | | | | | | | | | -[AKClient hasInternalPrivateEntitlementAccess]
83902 ms  | | | | | | | | | | | | | | -[AKClient hasInternalAccess]
83902 ms  | | | | | | | | | | | | | | | -[AKClient hasOwnerAccess]
83902 ms  | | | | | | | | | | | | | | | | -[AKClient _boolValueForEntitlement:0x10503a290]
83902 ms  | | | | | | | | | | | | | | | | | -[NSXPCConnection valueForEntitlement:0x10503a290]
83902 ms  | | | | | | | | | | | | | | | | | | -[NSXPCConnection auditToken]
83904 ms  | | | | | | | | | | | | | | | | -[AKClient _boolValueForEntitlement:0x10503a270]
83904 ms  | | | | | | | | | | | | | | | | | -[NSXPCConnection valueForEntitlement:0x10503a270]
83904 ms  | | | | | | | | | | | | | | | | | | -[NSXPCConnection auditToken]
        /* TID 0x2ee7 */
83904 ms  | -[AKNativeAnisetteService _unsafe_anisetteDataForDSID:0xffffffffffffffffe withError:0x16b3a68a8]
83904 ms  | | +[AKADIProxy requestOTPForDSID:0xffffffffffffffffe outMID:0x16b3a67e8 outMIDSize:0x16b3a67dc outOTP:0x16b3a67e9 outOTPSize:0x16b3a67d8]
        /* TID 0x2767 */
83904 ms  | | | | | | | | | | | +[AKUserInfoController sharedController]
```

```
root@192.168.2.13 (ssh)   ⌥⌘1   ⌘1   ~ (-zsh)   ⌘2   frida-trace (python)   ⌘3
62%   10 GB   3.1 kB↓   3.1 kB↑   4/13, 10:00
83904 ms  +[AKUserInfoController sharedController]
83904 ms  -[AKUserInfoController fetchAuthModeWithContext:0x126a0bf00 client:0x1269481d0 completion:0x16b31a838]
83904 ms  -[AKURLRequestProviderImpl initWithContext:0x126a0bf00 urlBagKey:0x1ea6f14b8]
83904 ms  -[AKURLRequestProviderImpl initWithContext:0x126a0bf00 urlBagKey:0x1ea6f14b8 shouldCacheResource:0x0]
83904 ms  | -[AKURLRequestProviderImpl initWithContext:0x126a0bf00]
83904 ms  | -[AKURLRequestProviderImpl _setRequestURL]
83904 ms  | -[AKAppleIDAuthenticationContext altDSID]
83904 ms  | +[AKURLBag bagForAltDSID:0x0]
83904 ms  | +[AKURLBag sharedBag]
83904 ms  | -[AKURLBag urlAtKey:0x1ea6f14b8]
83904 ms  | -[AKURLBag _urlAtKey:0x1ea6f14b8]
83904 ms  | -[AKURLBag _requestNewURLBagIfNecessaryWithError:0x0]
83904 ms  | -[AKURLBag __urlBagFromCache:0x0 withError:0x0]
83904 ms  | -[AKURLBag bagProvider]
83904 ms  | -[AKURLBag bagProvider]
83904 ms  | -[AKURLBag altDSID]
83904 ms  | -[AKURLBagService urlBagFromCache:0x0 altDSID:0x0 error:0x0]
83904 ms  | -[AKURLBagService _cachedURLBagForAltDSID:0x0]
83904 ms  -[AKURLRequestProviderImpl setClient:0x1269481d0]
83904 ms  -[AKServiceControllerImpl initWithRequestProvider:0x126a22930]
83904 ms  -[AKServiceControllerImpl executeRequestWithCompletion:0x16b31a7c0]
83904 ms  -[AKURLRequestProviderImpl buildRequest:0x16b31a778]
83904 ms  | -[AKURLRequestProviderImpl requestURL]
83904 ms  | -[AKURLRequestProviderImpl authKitBody]
83905 ms  | -[AKURLRequestProviderImpl authKitBodyData]
83905 ms  | -[AKAuthModeRequestProvider signRequest:0x126a21b10 error:0x16b31a6e8]
83905 ms  | -[AKGrandSlamRequestProvider signRequest:0x126a21b10 error:0x16b31a6e8]
83905 ms  | -[AKURLRequestProviderImpl context]
83905 ms  | -[AKAppleIDAuthenticationContext set_shouldSendIdentityTokenForRemoteUI:0x0]
83905 ms  | -[AKURLRequestProviderImpl client]
83905 ms  | -[AKDServerUIController initWithClient:0x1269481d0]
83905 ms  | -[AKURLRequestProviderImpl context]
83905 ms  | -[AKDServerUIController resourceLoadDelegateWithContext:0x126a0bf00]
83905 ms  | -[AKDServerUIController _decorateLoadDelegate:0x126a232e0 withContext:0x126a0bf00]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate decorateWithContext:0x126a0bf00]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate altDSID]
83905 ms  | -[AKAppleIDAuthenticationContext altDSID]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setAltDSID:0x0]
83905 ms  | -[AKAppleIDAuthenticationContext needsNewAppleID]
83905 ms  | -[AKAppleIDAuthenticationContext needsNewChildAccount]
83905 ms  | -[AKAppleIDAuthenticationContext proxiedDevice]
83905 ms  | -[AKAppleIDAuthenticationContext needsSecurityUpgradeUI]
83905 ms  | -[AKAppleIDAuthenticationContext isEphemeral]
83905 ms  | -[AKAppleIDAuthenticationContext isAppleIDLoginEnabled]
83905 ms  | -[AKAppleIDAuthenticationContext custodianRecoveryToken]
83905 ms  | -[AKAppleIDAuthenticationContext serviceType]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setServiceType:0x1]
83905 ms  | -[AKAppleIDAuthenticationContext appProvidedContext]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setAppProvidedContext:0x126a0fe20]
83905 ms  | -[AKAppleIDAuthenticationContext _proxiedAppName]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setProxyAppName:0x0]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setShouldSendPhoneNumber:0x1]
83905 ms  | -[AKAppleIDAuthenticationContext hasEmptyPassword]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setHasEmptyPasswordOverride:0x0]
83905 ms  | -[AKAppleIDAuthenticationContext securityUpgradeContext]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setSecurityUpgradeContext:0x126a05760]
83905 ms  | -[AKAppleIDAuthenticationContext anticipateEscrowAttempt]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setShouldSendICSCIntentHeader:0x1]
83905 ms  | -[AKAppleIDAuthenticationContext shouldOfferSecurityUpgrade]
83905 ms  | -[AKAppleIDServerResourceLoadDelegate setShouldOfferSecurityUpgrade:0x1]
83905 ms  | +[AKFollowUpProviderFactory sharedAuthKitFollowupProvider]
83905 ms  | -[AKFollowUpController pendingFollowUpItems:0x0]
```

```
root@192.168.2.13 (ssh)   ⌥⌘1   ⌘1   ~ (-zsh)   ⌘2   frida-trace (python)   ⌘3
61%   10 GB   518 kB↓   5.1 kB↑   4/13, 10:00
83905 ms  -[AKFollowUpController pendingFollowUpItems:0x0]
83905 ms  | -[NSXPCConnection synchronousRemoteObjectProxyWithErrorHandler:0x16b31a428]
83905 ms  | -[NSXPCConnection _remoteObjectInterfaceClass]
83905 ms  | -[NSXPCInterface _customSubclass]
83905 ms  -[NSXPCConnection _sendSelector:0x19e667b96 withProxy:0x126a23430 arg1:0x1ea6ece38 arg2:0x16b31a3f8]
83906 ms  | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19e667b96]
83906 ms  | -[NSXPCConnection _sendInvocation:0x0 orArguments:0x16b31a368 count:0x2 methodSignature:0x9d85aafdd9ff885f selector:0x19e667b96 withProxy:0x126a23430]
83906 ms  | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19e667b96 reply:0x0]
83906 ms  | -[NSXPCCoder init]
83906 ms  | -[NSXPCCoder dealloc]
83906 ms  | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x19e667b96]
83907 ms  | -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x126a237f0 sequence:0x9 replyInfo:0x126a234e0]
83907 ms  | -[NSXPCCoder init]
83907 ms  | -[NSXPCInterface _selectorIsAllowed:0x19e667b96 isReply:0x1 methodSignature:0x16b3196b0 allowedClasses:0x16b3196b8]
83907 ms  | -[NSXPCCoder dealloc]
83907 ms  | +[AKFollowUpServerPayloadFormatter pendingAuthKitFollowUpPayload:0x1f7b37500]
83907 ms  | -[AKAppleIDServerResourceLoadDelegate setFollowupItems:0x126a23710]
83907 ms  | -[AKAppleIDAuthenticationContext proxiedDeviceAnisetteData]
83907 ms  | -[AKAppleIDServerResourceLoadDelegate setProxiedDeviceAnisetteData:0x0]
83907 ms  | -[AKAppleIDAuthenticationContext proxiedDevice]
83907 ms  | -[AKAppleIDServerResourceLoadDelegate setProxiedDevice:0x0]
83907 ms  -[AKClient name]
83907 ms  -[AKAppleIDServerResourceLoadDelegate setClientAppName:0x1f7d8ab20]
83907 ms  -[AKAppleIDAuthenticationContext authKitAccount:0x16b31a598]
83907 ms  | -[AKAppleIDAuthenticationContext altDSID]
83907 ms  | -[AKAppleIDAuthenticationContext DSID]
83907 ms  | -[AKAppleIDAuthenticationContext username]
83907 ms  | +[AKAccountManager sharedInstance]
83907 ms  | +[AKAccountManager isAccountsFrameworkAvailable]
83907 ms  | -[AKAccountManager authKitAccountWithAppleID:0x126a053b0]
83907 ms  | -[AKAccountManager authKitAccountType]
        /* TID 0x2ee7 */
83907 ms  +[AKADIProxy dispose:0x126b0e120]
83907 ms  +[AKADIProxy dispose:0x126b077e0]
        /* TID 0x2767 */
83907 ms  | -[NSXPCConnection synchronousRemoteObjectProxyWithErrorHandler:0x16b31a080]
83907 ms  | -[NSXPCConnection _remoteObjectInterfaceClass]
83907 ms  | -[NSXPCInterface _customSubclass]
        /* TID 0x2ee7 */
83907 ms  -[AKAnisetteData setMachineID:0x126b05830]
83907 ms  -[AKAnisetteData setOneTimePassword:0x126b0e0e0]
83908 ms  -[AKAnisetteData setRoutingInfo:0x3050500]
83908 ms -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
83908 ms -[NSXPCCoder init]
        /* TID 0x2767 */
83908 ms  | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19cefc453]
        /* TID 0x2ee7 */
83908 ms -[AKAnisetteData encodeWithCoder:0x12900f600]
        /* TID 0x2767 */
83908 ms  | -[NSXPCConnection _sendInvocation:0x16b319da0 orArguments:0x0 count:0x0 methodSignature:0x9d85aafdd9ffdaff selector:0x19cefc453 withProxy:0x126a23790]
83908 ms  | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19cefc453 reply:0x0]
83908 ms  | -[NSXPCCoder init]
        /* TID 0x2ee7 */
83908 ms -[NSXPCCoder dealloc]
83908 ms -[AKAnisetteData .cxx_destruct]
        /* TID 0x2767 */
83908 ms  | -[NSXPCCoder dealloc]
83908 ms  | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x19cefc453]
83908 ms  | -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x126a23e10 sequence:0x2 replyInfo:0x126a23950]
83908 ms  | -[NSXPCCoder init]
83908 ms  | -[NSXPCInterface _selectorIsAllowed:0x19cefc453 isReply:0x1 methodSignature:0x16b318ed0 allowedClasses:0x16b318ed8]
83909 ms  | -[NSXPCCoder dealloc]
```

```
⌥⌘1   root@192.168.2.13 (ssh)   ⌘1   ~ (-zsh)   ⌘2   frida-trace (python)   ⌘3
53%   10 GB   1.0 kB↓   2.0 kB↑   4/13, 10:01
83909 ms  | | |
```

```
root@192.168.2.13 (ssh)   ~ (-zsh)   frida-trace (python)
58%   10 GB   10 kB↓   3.1 kB↑   4/13, 10:01
83928 ms  -[AKAppleIDServerResourceLoadDelegate .cxx_destruct]
          /* TID 0x4a03 */
83928 ms  -[AKURLSession _URLSession]
83931 ms  -[AKAppleIDSession copyWithZone:0x0]
83931 ms  | -[AKAppleIDSession initWithIdentifier:0x1ea6ed738]
83931 ms  -[AKURLDataTask setRequest:0x126b07210]
83931 ms  -[AKURLDataTask setRetryCount:0x0]
83931 ms  -[AKURLDataTask setCompletionHandler:0x126b0e360]
83932 ms  -[AKURLDataTask setUnderlyingTask:0x126a23790]
83934 ms  -[AKAppleIDSession URLSession:0x125e16f80 task:0x126a23790 getAppleIDRequestOrHeadersForResponse:0x0 completionHandler:0x16b4be680]
83934 ms  | -[AKAppleIDSession _generateAppleIDHeadersForSessionTask:0x126a23790 withCompletion:0x16b4be5c8]
83934 ms  |   | -[AKAppleIDSession _nativeAnisetteController]
83934 ms  |   |   | -[AKAnisetteProvisioningController init]
83934 ms  |   | -[AKAnisetteProvisioningController anisetteDataForURLRequest:0x126a18120 completion:0x16b4be488]
83934 ms  |   |   | -[AKAnisetteProvisioningController fetchAnisetteDataAndProvisionIfNecessary:0x1 withCompletion:0x16b4be488]
83934 ms  |   |   |   | -[AKAnisetteProvisioningController _anisetteServiceConnection]
83934 ms  |   |   |   |   | -[NSXPCConnection initWithMachServiceName:0x1ea6f09b8 options:0x0]
83934 ms  |   |   |   |   |   | -[NSXPCConnection init]
83934 ms  |   |   |   |   | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
83934 ms  |   |   |   |   | -[NSXPCConnection setRemoteObjectInterface:0x125d16640]
83934 ms  |   |   |   |   | -[NSXPCConnection setExportedObject:0x126a243f0]
83934 ms  |   |   |   |   | +[AKAnisetteProvisioningClientInterface XPCInterface]
83934 ms  |   |   |   |   | -[NSXPCConnection setExportedInterface:0x125d16a50]
83934 ms  |   |   |   |   | -[NSXPCConnection setInterruptionHandler:0x16b4be1f0]
83934 ms  |   |   |   |   | -[NSXPCConnection setInvalidationHandler:0x16b4be1c8]
83934 ms  |   |   |   |   | -[NSXPCConnection resume]
83934 ms  |   |   |   | -[NSXPCConnection remoteObjectProxyWithErrorHandler:0x16b4be2a8]
83935 ms  |   |   |   |   | -[NSXPCConnection _remoteObjectInterfaceClass]
83935 ms  |   |   |   |   |   | -[NSXPCInterface _customSubclass]
83935 ms  |   |   |   | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19d37a17a]
83935 ms  |   |   |   | -[NSXPCConnection _sendInvocation:0x16b4bdff0 orArguments:0x0 count:0x0 methodSignature:0x9d85aafdd9ff48ff selector:0x19d37a17a withProxy:0x126b17cd0]
83935 ms  |   |   |   |   | -[NSXPCInterface _interfaceForArgument:0x1 ofSelector:0x19d37a17a reply:0x0]
83935 ms  |   |   |   |   | -[NSXPCCoder init]
83935 ms  |   |   |   |   | -[NSXPCCoder dealloc]
83935 ms  |   |   |   |   | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x19d37a17a]
          /* TID 0x2767 */
83935 ms  -[NSXPCListener serviceName]
83935 ms  -[NSXPCConnection init]
83935 ms  -[NSXPCListener delegate]
83935 ms  -[NSXPCListener delegate]
83935 ms  -[AKDaemonConnectionManager listener:0x126907500 shouldAcceptNewConnection:0x126a24be0]
83935 ms  | -[AKClient initWithConnection:0x126a24be0]
83935 ms  | -[AKDaemonConnectionManager shouldAllowClient:0x126a254e0 logging:0x16b31a598]
83935 ms  |   | -[AKClient hasWriteAccess]
83935 ms  |   |   | -[AKClient _boolValueForEntitlement:0x10503a2b0]
83935 ms  |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
83935 ms  |   |   |   |   | -[NSXPCConnection auditToken]
83935 ms  |   | -[AKClient hasInternalAccess]
83935 ms  |   |   | -[AKClient hasOwnerAccess]
83935 ms  |   |   |   | -[AKClient _boolValueForEntitlement:0x10503a290]
83936 ms  |   |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a290]
83936 ms  |   |   |   |   |   | -[NSXPCConnection auditToken]
83936 ms  |   |   | -[AKClient _boolValueForEntitlement:0x10503a270]
83936 ms  |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a270]
83936 ms  |   |   |   |   | -[NSXPCConnection auditToken]
83936 ms  |   | -[AKClient description]
83936 ms  |   |   | -[AKClient name]
83936 ms  |   |   |   | -[NSXPCConnection processIdentifier]
83936 ms  |   |   | -[NSXPCConnection processIdentifier]
83936 ms  | -[AKAnisetteProvisioningService initWithClient:0x126a254e0]
83936 ms  |   | +[AKAbsintheSigner sharedSigner]
83936 ms  |   | +[AKAttestationSigner sharedSigner]
```

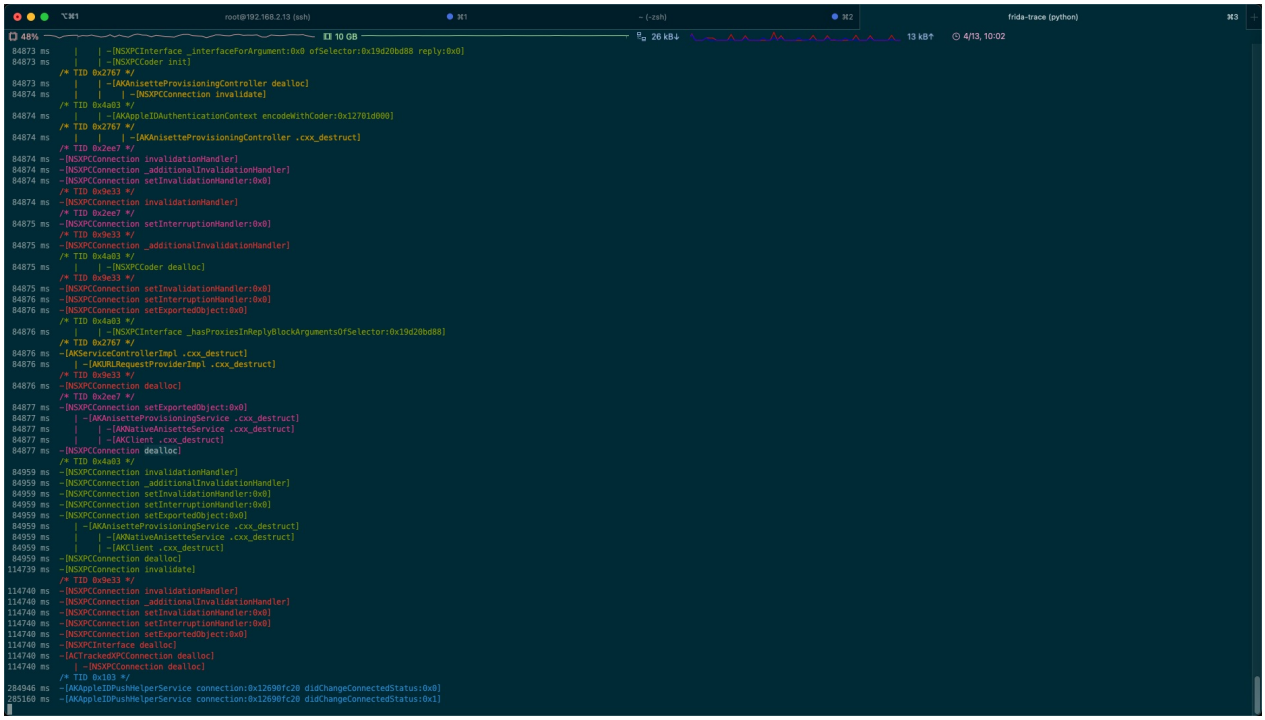
```
root@192.168.2.13 (ssh)   ~ (-zsh)   frida-trace (python)
62%   10 GB   12 kB↓   6.1 kB↑   4/13, 10:01
83936 ms  |   | +[AKAttestationSigner sharedSigner]
83936 ms  | -[NSXPCConnection setExportedObject:0x126a255f0]
83936 ms  | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
83936 ms  | -[NSXPCConnection setExportedInterface:0x125d16640]
83936 ms  | +[AKAnisetteProvisioningClientInterface XPCInterface]
83936 ms  | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
83936 ms  | -[NSXPCConnection resume]
83936 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126a257f0 flags:0x21]
83936 ms  | -[NSXPCCoder init]
83936 ms  | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSignature:0x16b31a0d0 allowedClasses:0x16b31a0d8]
83936 ms  | -[NSXPCCoder dealloc]
83936 ms  | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
83936 ms  | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b31a2a0]
83936 ms  |   | -[AKClient hasInternalPrivateAccess]
83936 ms  |   |   | -[AKClient hasInternalPrivateEntitlementAccess]
83936 ms  |   |   |   | -[AKClient hasInternalAccess]
83936 ms  |   |   |   |   | -[AKClient hasOwnerAccess]
83936 ms  |   |   |   |   |   | -[AKClient _boolValueForEntitlement:0x10503a290]
83936 ms  |   |   |   |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a290]
83936 ms  |   |   |   |   |   |   |   | -[NSXPCConnection auditToken]
83936 ms  |   |   |   |   | -[AKClient _boolValueForEntitlement:0x10503a270]
83936 ms  |   |   |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a270]
83936 ms  |   |   |   |   |   |   | -[NSXPCConnection auditToken]
83936 ms  | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b31a2a0]
83936 ms  |   | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
83936 ms  |   |   | -[AKAnisetteProvisioningService _nativeAnisetteService]
83936 ms  |   |   |   | -[AKNativeAnisetteService initWithClient:0x126a254e0]
83936 ms  |   | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNecessary:0x1 withCompletion:0x16b31a2a0]
83936 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
83936 ms  | +[AKURLBag bagForAltDSID:0x0]
83936 ms  |   | +[AKURLBag sharedBag]
83936 ms  | -[AKURLBag lastKnownIDMSEnvironment]
83936 ms  |   | +[AKConfiguration sharedConfiguration]
83936 ms  |   | -[AKConfiguration lastKnownIDMSEnvironment]
83936 ms  |   |   | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
83936 ms  | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
83936 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xfffffffffffffffe withError:0x16b31a8a8]
83936 ms  | +[AKADIProxy getIDMSRoutingInfo:0x16b31a838 forDSID:0xfffffffffffffffe]
83937 ms  | -[AKNativeAnisetteService _unsafe_anisetteDataforDSID:0xfffffffffffffffe withError:0x16b31a8a8]
83937 ms  |   | +[AKADIProxy requestOTPForDSID:0xfffffffffffffffe outMID:0x16b31a7e0 outMIDSize:0x16b31a7dc outOTP:0x16b31a7e0 outOTPSize:0x16b31a7d8]
83937 ms  |   | +[AKADIProxy dispose:0x126a26580]
83937 ms  |   | +[AKADIProxy dispose:0x126a24a80]
83937 ms  |   | -[AKAnisetteData setMachineID:0x126a25670]
83937 ms  |   | -[AKAnisetteData setOneTimePassword:0x126a256d0]
83937 ms  | -[AKAnisetteData setRoutingInfo:0x3050500]
83937 ms  -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
83937 ms  -[NSXPCCoder init]
83937 ms  -[AKAnisetteData encodeWithCoder:0x128011000]
83937 ms  -[NSXPCCoder dealloc]
83937 ms  -[AKAnisetteData .cxx_destruct]
83937 ms  -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x126a25620 sequence:0x1 replyInfo:0x126b05fd0]
83937 ms  | -[NSXPCCoder init]
83937 ms  | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x1 methodSignature:0x16b31a3f0 allowedClasses:0x16b31a3f8]
83937 ms  | +[AKAnisetteData supportsSecureCoding]
83937 ms  | -[AKAnisetteData initWithCoder:0x12880d000]
83937 ms  | -[AKAppleIDSession _genericAppleIDHeadersDictionaryForRequest:0x126a18120]
83938 ms  |   | +[AKDevice currentDevice]
83938 ms  |   | -[AKDevice locale]
83938 ms  | -[AKAnisetteData machineID]
83938 ms  | -[AKAnisetteData oneTimePassword]
83938 ms  | -[AKAnisetteData routingInfo]
83938 ms  | +[AKDevice currentDevice]
```

```
⌥⌘1   root@192.168.2.13 (ssh)   ⌘1   ~ (-zsh)   ⌘2   frida-trace (python)   ⌘3
53%   10 GB   1.0 kB↓   2.0 kB↑   4/13, 10:01
83938 ms     | +[AKDevice currentDevice]
83938 ms     | -[AKDevice localUserUUID]
83938 ms     | +[AKConfiguration sharedConfiguration]
83938 ms     | -[AKConfiguration shouldAllowTestApplication]
83938 ms     |   | -[AKConfiguration configurationValueForKey:0x1ea6efff8]
83938 ms     | -[AKAppleIDSession _pairedDeviceAnisetteController]
83938 ms  -[AKAnisetteData .cxx_destruct]
83938 ms  -[NSXPCCoder dealloc]
84336 ms  -[NSXPCConnection invalidationHandler]
84337 ms  -[NSXPCConnection _additionalInvalidationHandler]
84337 ms  -[NSXPCConnection setInvalidationHandler:0x0]
84337 ms  -[NSXPCConnection setInterruptionHandler:0x0]
84337 ms  -[NSXPCConnection setExportedObject:0x0]
84337 ms     | -[AKAnisetteProvisioningService .cxx_destruct]
84337 ms     |   | -[AKNativeAnisetteService .cxx_destruct]
84338 ms     |   | -[AKClient .cxx_destruct]
84338 ms  -[NSXPCConnection dealloc]
84342 ms  -[NSXPCListener serviceName]
84342 ms  -[NSXPCConnection init]
84342 ms  -[NSXPCListener delegate]
84342 ms  -[NSXPCListener delegate]
84343 ms  -[AKDaemonConnectionManager listener:0x12690750 0 shouldAcceptNewConnection:0x125e33170]
84343 ms     | -[AKClient initWithConnection:0x125e33170]
84343 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x125e2b900 logging:0x16b31a598]
84343 ms     |   | -[AKClient hasWriteAccess]
84343 ms     |   |   | -[AKClient _boolValueForEntitlement:0x10503a2b0]
84343 ms     |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
84343 ms     |   |   |   |   | -[NSXPCConnection auditToken]
84347 ms     |   | -[AKClient description]
84347 ms     |   |   | -[AKClient name]
84347 ms     |   |   |   | -[NSXPCConnection processIdentifier]
84347 ms     |   | -[NSXPCConnection processIdentifier]
84347 ms     | -[AKAnisetteProvisioningService initWithClient:0x125e2b900]
84347 ms     |   | +[AKAbsintheSigner sharedSigner]
84347 ms     |   | +[AKAttestationSigner sharedSigner]
84348 ms     | -[NSXPCConnection setExportedObject:0x126889ce0]
84348 ms     | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
84348 ms     | -[NSXPCConnection setExportedInterface:0x125d16640]
84348 ms     | +[AKAnisetteProvisioningClientInterface XPCInterface]
84348 ms     | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
84348 ms     | -[NSXPCConnection resume]
84349 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x12688b5c0 flags:0x21]
84349 ms     | -[NSXPCCoder init]
84349 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSignature:0x16b31a0d0 allowedClasses:0x16b31a0d8]
84349 ms     | -[NSXPCCoder dealloc]
84349 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
84349 ms     | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b31a2a0]
84349 ms     |   | -[AKClient hasInternalPrivateAccess]
84349 ms     |   |   | -[AKClient hasInternalPrivateEntitlementAccess]
84349 ms     |   |   |   | -[AKClient hasInternalAccess]
84349 ms     |   |   |   |   | -[AKClient hasOwnerAccess]
84349 ms     |   |   |   |   |   | -[AKClient _boolValueForEntitlement:0x10503a290]
84349 ms     |   |   |   |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a290]
84349 ms     |   |   |   |   |   |   |   | -[NSXPCConnection auditToken]
84352 ms     |   |   |   |   | -[AKClient _boolValueForEntitlement:0x10503a270]
84352 ms     |   |   |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a270]
84352 ms     |   |   |   |   |   |   | -[NSXPCConnection auditToken]
84353 ms     | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b31a2a0]
84353 ms     |   | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
84353 ms     |   |   | -[AKAnisetteProvisioningService _nativeAnisetteService]
84353 ms     |   |   |   | -[AKNativeAnisetteService initWithClient:0x125e2b900]
84353 ms     |   | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNecessary:0x1 withCompletion:0x16b31a2a0]
```

```
⌥⌘1   root@192.168.2.13 (ssh)   ⌘1   ~ (-zsh)   ⌘2   frida-trace (python)   ⌘3
56%   10 GB   188 kB↓   5.1 kB↑   4/13, 10:01
84353 ms     |   |   | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNecessary:0x1 withCompletion:0x16b31a2a0]
84353 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
84353 ms     | +[AKURLBag bagForAltDSID:0x0]
84353 ms     |   | +[AKURLBag sharedBag]
84353 ms     | -[AKURLBag lastKnownIDMSEnvironment]
84353 ms     |   | +[AKConfiguration sharedConfiguration]
84353 ms     |   | -[AKConfiguration lastKnownIDMSEnvironment]
84353 ms     |   |   | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
84353 ms     | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
84353 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xffffffffffffffffe withError:0x16b31a8a8]
84353 ms     | +[AKADIProxy getIDMSRoutingInfo:0x16b31a838 forDSID:0xffffffffffffffffe]
84355 ms     | -[AKNativeAnisetteService _unsafe_anisetteDataforDSID:0xffffffffffffffffe withError:0x16b31a8a8]
84355 ms     |   | +[AKADIProxy requestOTPforDSID:0xffffffffffffffffe outMID:0x16b31a7e0 outMIDSize:0x16b31a7dc outOTP:0x16b31a7e0 outOTPSize:0x16b31a7d8]
84355 ms     |   | +[AKADIProxy dispose:0x125e325e0]
84355 ms     |   | +[AKADIProxy dispose:0x125e2b940]
84355 ms     |   | -[AKAnisetteData setMachineID:0x125e2bf20]
84355 ms     |   | -[AKAnisetteData setOneTimePassword:0x125e2c070]
84355 ms     | -[AKAnisetteData setRoutingInfo:0x30500500]
84355 ms  -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
84355 ms  -[NSXPCCoder init]
84355 ms  -[AKAnisetteData encodeWithCoder:0x127819800]
84355 ms  -[NSXPCCoder dealloc]
84355 ms  -[AKAnisetteData .cxx_destruct]
84390 ms  -[AKURLSession URLSession:0x125e16f80 didReceiveChallenge:0x12694ab10 completionHandler:0x16b31a698]
84390 ms     | +[AKCertificatePinning isValidCertificateTrust:0x126949850 forHostname:0x12694a840]
84687 ms  -[NSXPCConnection invalidationHandler]
84687 ms  -[NSXPCConnection _additionalInvalidationHandler]
84688 ms  -[NSXPCConnection setInvalidationHandler:0x0]
84688 ms  -[NSXPCConnection setInterruptionHandler:0x0]
84688 ms  -[NSXPCConnection setExportedObject:0x0]
84688 ms     | -[AKAnisetteProvisioningService .cxx_destruct]
84688 ms     |   | -[AKNativeAnisetteService .cxx_destruct]
84689 ms     |   | -[AKClient .cxx_destruct]
         /* TID 0x9e33 */
84689 ms  -[NSXPCListener serviceName]
84689 ms  -[NSXPCConnection init]
84689 ms  -[NSXPCListener delegate]
84689 ms  -[NSXPCListener delegate]
84689 ms  -[AKDaemonConnectionManager listener:0x12690750 0 shouldAcceptNewConnection:0x126a04b30]
84689 ms     | -[AKClient initWithConnection:0x126a04b30]
84689 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x126a10290 logging:0x16b432598]
84689 ms     |   | -[AKClient hasWriteAccess]
84689 ms     |   |   | -[AKClient _boolValueForEntitlement:0x10503a2b0]
84689 ms     |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
84689 ms     |   |   |   |   | -[NSXPCConnection auditToken]
84690 ms     |   | -[AKClient description]
84690 ms     |   |   | -[AKClient name]
84690 ms     |   |   |   | -[NSXPCConnection processIdentifier]
84690 ms     |   | -[NSXPCConnection processIdentifier]
84690 ms     | -[AKAnisetteProvisioningService initWithClient:0x126a10290]
84690 ms     |   | +[AKAbsintheSigner sharedSigner]
84690 ms     |   | +[AKAttestationSigner sharedSigner]
84690 ms     | -[NSXPCConnection setExportedObject:0x126a05f60]
84690 ms     | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
84690 ms     | -[NSXPCConnection setExportedInterface:0x125d16640]
84690 ms     | +[AKAnisetteProvisioningClientInterface XPCInterface]
84690 ms     | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
84690 ms     | -[NSXPCConnection resume]
84691 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126a0c780 flags:0x21]
84691 ms     | -[NSXPCCoder init]
84691 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSignature:0x16b4320d0 allowedClasses:0x16b4320d8]
84691 ms     | -[NSXPCCoder dealloc]
```

```
root@192.168.2.13 (ssh)   ~ (-zsh)   frida-trace (python)
58%   10 GB   0.0 kB↓   1.0 kB↑   4/13, 10:02
84691 ms     | -[NSXPCCoder dealloc]
84691 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
84691 ms     | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b4322a0]
84691 ms     |   | -[AKClient hasInternalPrivateAccess]
84691 ms     |   |   | -[AKClient hasInternalPrivateEntitlementAccess]
84691 ms     |   |   |   | -[AKClient hasInternalAccess]
84691 ms     |   |   |   |   | -[AKClient hasOwnerAccess]
84691 ms     |   |   |   |   |   | -[AKClient _boolValueForEntitlement:0x10503a290]
84691 ms     |   |   |   |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a290]
84691 ms     |   |   |   |   |   |   |   | -[NSXPCConnection auditToken]
         /* TID 0x2767 */
84691 ms  -[NSXPCConnection dealloc]
         /* TID 0x9e33 */
84692 ms     |   |   |   |   |   | -[AKClient _boolValueForEntitlement:0x10503a270]
84692 ms     |   |   |   |   |   |   | -[NSXPCConnection valueForEntitlement:0x10503a270]
84692 ms     |   |   |   |   |   |   |   | -[NSXPCConnection auditToken]
84692 ms     |   | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNecessary:0x1 device:0x0 completion:0x16b4322a0]
84692 ms     |   |   | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
84692 ms     |   |   |   | -[AKAnisetteProvisioningService _nativeAnisetteService]
84692 ms     |   |   |   |   | -[AKNativeAnisetteService initWithClient:0x126a10290]
84692 ms     |   |   | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNecessary:0x1 withCompletion:0x16b4322a0]
84692 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
84692 ms     | +[AKURLBag bagForAltDSID:0x0]
84692 ms     |   | +[AKURLBag sharedBag]
84692 ms     | -[AKURLBag lastKnownIDMSEnvironment]
84692 ms     |   | +[AKConfiguration sharedConfiguration]
84692 ms     |   | -[AKConfiguration lastKnownIDMSEnvironment]
84692 ms     |   |   | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
84692 ms     | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
84692 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xffffffffffffffffe withError:0x16b4328a8]
84692 ms     | +[AKADIProxy getIDMSRoutingInfo:0x16b432838 forDSID:0xffffffffffffffffe]
84693 ms     | -[AKNativeAnisetteService _unsafe_anisetteDataforDSID:0xffffffffffffffffe withError:0x16b4328a8]
84693 ms     |   | +[AKADIProxy requestOTPForDSID:0xffffffffffffffffe outMID:0x16b4327e8 outMIDSize:0x16b4327dc outOTP:0x16b4327e0 outOTPSize:0x16b4327d8]
84693 ms     |   | +[AKADIProxy dispose:0x126a29160]
84693 ms     |   | +[AKADIProxy dispose:0x126a2aa70]
84693 ms     |   | -[AKAnisetteData setMachineID:0x126a0c7d0]
84693 ms     |   | -[AKAnisetteData setOneTimePassword:0x126a0c830]
84693 ms     | -[AKAnisetteData setRoutingInfo:0x3050500]
84693 ms  -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
84693 ms  -[NSXPCCoder init]
84693 ms  -[AKAnisetteData encodeWithCoder:0x128811000]
84693 ms  -[NSXPCCoder dealloc]
84693 ms  -[AKAnisetteData .cxx_destruct]
84866 ms  -[AKURLSession URLSession:0x125e16f80 dataTask:0x126a23790 didReceiveData:0x125d86ce0]
84866 ms     | -[AKURLDataTask receivedData]
84867 ms     | -[AKURLDataTask setReceivedData:0x125d87560]
         /* TID 0x2767 */
84868 ms  -[AKURLSession URLSession:0x125e16f80 task:0x126a23790 didCompleteWithError:0x0]
84868 ms     | -[AKURLSession _unsafe_completeTask:0x126b043e0 withError:0x0]
84868 ms     |   | -[AKURLDataTask underlyingTask]
84868 ms     |   | -[AKURLDataTask _completeWithError:0x0]
84868 ms     |   |   | -[AKURLDataTask setCanceledOrCompleted:0x1]
84868 ms     |   | -[AKURLDataTask receivedData]
84869 ms  -[AKURLDataTask description]
84869 ms  -[AKGrandSlamRequestProvider validateResponseData:0x125d87560 error:0x16b31ade8]
84869 ms     | -[AKURLRequestProviderImpl validateResponseData:0x125d87560 error:0x16b31ade8]
84869 ms     |   | -[AKURLRequestProviderImpl _validateDataExists:0x125d87560]
84869 ms     |   | -[AKURLRequestProviderImpl _validateResponseBodyFormat]
84869 ms     |   |   | -[AKGrandSlamRequestProvider expectedResponseType]
84870 ms     |   | -[AKURLRequestProviderImpl _validateErrorCode:0x9b85aafdd9ffd30d withKey:0x1ea6eeb58]
84870 ms  -[AKAppleIDAuthenticationContext username]
84870 ms  -[AKAppleIDAuthenticationService _correlateContext:0x126a0bf00 withAuthMode:0x1]
```

```
root@192.168.2.13 (ssh)   ~ (-zsh)   frida-trace (python)
61%   11 GB   15 kB↓   6.1 kB↑   4/13, 10:02
84870 ms  -[AKAppleIDAuthenticationService _correlateContext:0x126a0bf00 withAuthMode:0x1]
84870 ms     | -[AKAppleIDAuthenticationContext setAuthenticationMode:0x1]
84870 ms     | -[AKAppleIDAuthenticationContext authenticationType]
84870 ms  -[AKAppleIDAuthenticationContext username]
84870 ms  -[AKAppleIDAuthenticationContext authenticationType]
84870 ms  -[AKAuthenticationUILiaison presentBasicLoginUIForContext:0x126a0bf00 client:0x1269481d0 completion:0x16b31ab40]
84871 ms     | +[AKCAAuthPromptReporter reportPromptByClient:0x1269481d0 withContext:0x126a0bf00]
84871 ms     |   | -[AKAppleIDAuthenticationContext isFirstTimeLogin]
84871 ms     | +[AKAutoBugCapture shouldCapturePromptBugForContext:0x126a0bf00]
84871 ms     |   | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
84871 ms     | -[AKAuthenticationUILiaison _performBlockWithClient:0x1269481d0 context:0x126a0bf00 requireFullUICapability:0x0 allowRedirectToSettings:0x1 block:0x16b31aac0]
84871 ms     |   | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
84871 ms     |   | -[AKAppleIDAuthenticationContext _performUIOutOfProcess]
84872 ms     |   | -[AKAppleIDAuthenticationContext _performUIOutOfProcess]
84872 ms  -[AKURLDataTask .cxx_destruct]
84872 ms     | -[AKAppleIDSession .cxx_destruct]
         /* TID 0x4a03 */
84872 ms  -[AKClient proxyWithErrorHandler:0x16b4beda0]
84872 ms     | -[NSXPCConnection remoteObjectProxyWithErrorHandler:0x16b4beda0]
84872 ms     |   | -[NSXPCConnection _remoteObjectInterfaceClass]
84872 ms     |   |   | -[NSXPCInterface _customSubclass]
84873 ms  -[NSXPCConnection _sendSelector:0x19d20bd88 withProxy:0x12688ae80 arg1:0x126a0bf00 arg2:0x16b4bed70]
84873 ms     | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19d20bd88]
84873 ms     | -[NSXPCConnection _sendInvocation:0x0 orArguments:0x16b4bece8 count:0x2 methodSignature:0x9d85aafdd9ff885f selector:0x19d20bd88 withProxy:0x12688ae80]
84873 ms     |   | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d20bd88 reply:0x0]
84873 ms     |   | -[NSXPCCoder init]
         /* TID 0x2767 */
84873 ms     |   | -[AKAnisetteProvisioningController dealloc]
84874 ms     |   |   | -[NSXPCConnection invalidate]
         /* TID 0x4a03 */
84874 ms     |   | -[AKAppleIDAuthenticationContext encodeWithCoder:0x12701d000]
         /* TID 0x2767 */
84874 ms     |   |   | -[AKAnisetteProvisioningController .cxx_destruct]
         /* TID 0x2ee7 */
84874 ms  -[NSXPCConnection invalidationHandler]
84874 ms  -[NSXPCConnection _additionalInvalidationHandler]
84874 ms  -[NSXPCConnection setInvalidationHandler:0x0]
         /* TID 0x9e33 */
84874 ms  -[NSXPCConnection invalidationHandler]
         /* TID 0x2ee7 */
84875 ms  -[NSXPCConnection setInterruptionHandler:0x0]
         /* TID 0x9e33 */
84875 ms  -[NSXPCConnection _additionalInvalidationHandler]
         /* TID 0x4a03 */
84875 ms     |   | -[NSXPCCoder dealloc]
         /* TID 0x9e33 */
84875 ms  -[NSXPCConnection setInvalidationHandler:0x0]
84876 ms  -[NSXPCConnection setInterruptionHandler:0x0]
84876 ms  -[NSXPCConnection setExportedObject:0x0]
         /* TID 0x4a03 */
84876 ms     |   | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x19d20bd88]
         /* TID 0x2767 */
84876 ms  -[AKServiceControllerImpl .cxx_destruct]
84876 ms     | -[AKURLRequestProviderImpl .cxx_destruct]
         /* TID 0x9e33 */
84876 ms  -[NSXPCConnection dealloc]
         /* TID 0x2ee7 */
84877 ms  -[NSXPCConnection setExportedObject:0x0]
84877 ms     | -[AKAnisetteProvisioningService .cxx_destruct]
84877 ms     |   | -[AKNativeAnisetteService .cxx_destruct]
84877 ms     |   | -[AKClient .cxx_destruct]
84877 ms  -[NSXPCConnection dealloc]
```



log日志

```
...
-[NSXPCStore dealloc]: Loaded handler at "/Users/crifan/dev/dev_root/iosReverse/AppleSt
ore/AuthKit_akd/dynamicDebug/frida/scripts/__handlers__/NSXPCStore/dealloc.js"
-[NSXPCStore setIdentifier:]: Loaded handler at "/Users/crifan/dev/dev_root/iosReverse/
AppleStore/AuthKit_akd/dynamicDebug/frida/scripts/__handlers__/NSXPCStore/setIdentifier
_.js"
Started tracing 6145 functions. Press Ctrl+C to stop.


           /* TID 0x2ee3 */
 44503 ms  -[NSXPCListener serviceName]
 44503 ms  -[NSXPCConnection init]
 44503 ms  -[NSXPCListener delegate]
 44503 ms  -[NSXPCListener delegate]
 44503 ms  -[AKDaemonConnectionManager listener:0x126906200 shouldAcceptNewConnection:0
x126b0da50]
 44503 ms     | -[AKClient initWithConnection:0x126b0da50]
 44503 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x126b05640 logging:0x16b
31a598]
 44503 ms     |     | -[AKClient hasWriteAccess]
 44503 ms     |     |     | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 44503 ms     |     |     |     | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 44503 ms     |     |     |     |     | -[NSXPCConnection auditToken]
 44505 ms     |     | -[AKClient description]
 44505 ms     |     |     | -[AKClient name]
 44505 ms     |     |     |     | -[NSXPCConnection processIdentifier]
 44505 ms     |     |     | -[NSXPCConnection processIdentifier]
 44505 ms     | -[AKAppleIDAuthenticationService initWithClient:0x126b05640]
 44505 ms     |     | -[AKAppleIDAuthenticationService initWithProxy:0x126b16890]
 44505 ms     |     |     | -[AKAppleIDAuthenticationService init]
 44505 ms     |     |     |     | +[AKAccountManager sharedInstance]
```

```
 44505 ms     |    |    |    |    | +[AKAccountManager isAccountsFrameworkAvailable]
 44505 ms     |    |    |    | +[AKAuthenticationUILiaison sharedInstance]
 44505 ms     |    |    |    | +[AKAuthenticationTrafficController sharedInstance]
 44505 ms     |    |    |    | -[AKAuthenticationUILiaison surrogateManager]
 44505 ms     |    |    |    | -[AKAuthenticationTrafficController setSurrogateManager:
0x125d15810]
 44506 ms     | -[NSXPCConnection setExportedObject:0x126b0fa00]
 44506 ms     | +[AKAppleIDAuthenticationDaemonInterface XPCInterface]
 44506 ms     | -[NSXPCConnection setExportedInterface:0x1268141a0]
 44506 ms     | +[AKAppleIDAuthenticationClientInterface XPCInterface]
 44506 ms     | -[NSXPCConnection setRemoteObjectInterface:0x1269121f0]
 44506 ms     | -[NSXPCConnection resume]
 44506 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126b0fa40 flags:0x21]
 44506 ms     | -[NSXPCCoder init]
 44506 ms     | -[NSXPCInterface _selectorIsAllowed:0x19dd2ca94 isReply:0x0 methodSigna
ture:0x16b31a0f0 allowedClasses:0x16b31a0f8]
 44506 ms     | -[NSXPCCoder dealloc]
 44506 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19dd2ca94]
 44506 ms     | -[AKAppleIDAuthenticationService fetchURLBagFromCache:0x0 altDSID:0x0 c
ompletion:0x16b31a2c0]
 44506 ms     |    | +[AKURLBagService sharedBagService]
 44506 ms     |    | -[AKURLBagService urlBagFromCache:0x0 altDSID:0x0 error:0x16b31a0f
8]
 44506 ms     |    |    | -[AKURLBagService _cachedURLBagForAltDSID:0x0]
 44506 ms     |    | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19dd2ca94
reply:0x1]
 44506 ms     |    | -[NSXPCCoder init]
 44507 ms     |    | -[NSXPCCoder dealloc]
 44508 ms  -[NSXPCConnection invalidationHandler]
 44508 ms  -[NSXPCConnection _additionalInvalidationHandler]
 44508 ms  -[NSXPCConnection setInvalidationHandler:0x0]
 44508 ms  -[NSXPCConnection setInterruptionHandler:0x0]
 44508 ms  -[NSXPCConnection setExportedObject:0x0]
 44508 ms     | -[AKAppleIDAuthenticationService .cxx_destruct]
 44508 ms     |    | -[AKClient .cxx_destruct]
 44508 ms  -[NSXPCConnection dealloc]
           /* TID 0x2ee7 */
 83869 ms  -[NSXPCListener serviceName]
 83870 ms  -[NSXPCConnection init]
 83870 ms  -[NSXPCListener delegate]
 83870 ms  -[NSXPCListener delegate]
 83870 ms  -[AKDaemonConnectionManager listener:0x126906200 shouldAcceptNewConnection:0
x126947dd0]
 83871 ms     | -[AKClient initWithConnection:0x126947dd0]
 83871 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x1269481d0 logging:0x16b
3a6598]
 83871 ms     |    | -[AKClient hasWriteAccess]
 83871 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 83871 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 83871 ms     |    |    |    |    | -[NSXPCConnection auditToken]
 83874 ms     |    | -[AKClient description]
 83874 ms     |    |    | -[AKClient name]
 83874 ms     |    |    |    | -[NSXPCConnection processIdentifier]
 83874 ms     |    |    | -[NSXPCConnection processIdentifier]
 83874 ms     | -[AKAppleIDAuthenticationService initWithClient:0x1269481d0]
 83874 ms     |    | -[AKAppleIDAuthenticationService initWithProxy:0x125d87ea0]
```

```
 83875 ms     |    |    | -[AKAppleIDAuthenticationService init]
 83875 ms     |    |    |    | +[AKAccountManager sharedInstance]
 83875 ms     |    |    |    |    | +[AKAccountManager isAccountsFrameworkAvailable]
 83875 ms     |    |    |    | +[AKAuthenticationUILiaison sharedInstance]
 83875 ms     |    |    |    | +[AKAuthenticationTrafficController sharedInstance]
 83875 ms     |    |    |    | -[AKAuthenticationUILiaison surrogateManager]
 83875 ms     |    |    |    | -[AKAuthenticationTrafficController setSurrogateManager:
0x125d15810]
 83876 ms     | -[NSXPCConnection setExportedObject:0x125d88d50]
 83876 ms     | +[AKAppleIDAuthenticationDaemonInterface XPCInterface]
 83876 ms     | -[NSXPCConnection setExportedInterface:0x1268141a0]
 83876 ms     | +[AKAppleIDAuthenticationClientInterface XPCInterface]
 83876 ms     | -[NSXPCConnection setRemoteObjectInterface:0x1269121f0]
 83877 ms     | -[NSXPCConnection resume]
 83877 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x125d7e8f0 flags:0x21]
 83878 ms     | -[NSXPCCoder init]
 83878 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d1122fb isReply:0x0 methodSigna
ture:0x16b3a5780 allowedClasses:0x16b3a5788]
 83878 ms     | +[AKAppleIDAuthenticationContext supportsSecureCoding]
 83878 ms     | -[AKAppleIDAuthenticationContext initWithCoder:0x128808e00]
 83879 ms     | -[NSXPCCoder dealloc]
 83879 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d1122fb]
 83879 ms     | -[AKAppleIDAuthenticationService authenticateWithContext:0x126a0bf00 co
mpletion:0x16b3a5950]
 83879 ms     |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83879 ms     |    | -[AKAppleIDAuthenticationContext serviceType]
 83879 ms     |    | -[AKClient isPermittedForInteractiveAuthOnLimitedContext]
 83879 ms     |    |    | -[AKClient _permittedProcessNamesForInteractiveAuthOnLimitedC
ontext]
 83879 ms     |    |    | -[AKClient name]
 83880 ms     |    | -[AKAppleIDAuthenticationContext isContextEligibleForSilentAuthCoe
rcion]
 83880 ms     |    |    | -[AKAppleIDAuthenticationContext _proxiedAppName]
 83880 ms     |    |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83880 ms     |    | -[AKAppleIDAuthenticationContext username]
 83880 ms     |    | -[AKAppleIDAuthenticationContext _password]
 83881 ms     |    | -[AKAuthenticationTrafficController beginAuthenticationWithContext
:0x126a0bf00 client:0x1269481d0 clearanceHandler:0x16b3a57a8]
           /* TID 0x2767 */
 83882 ms  -[AKClient bundleID]
 83882 ms     | -[NSXPCConnection processIdentifier]
 83883 ms     | -[NSXPCConnection processIdentifier]
 83883 ms  -[AKAuthenticationTrafficController _addCachedPasswordInContext:0x126a0bf00]
 83883 ms     | -[AKAppleIDAuthenticationContext serviceType]
 83883 ms     | -[AKAppleIDAuthenticationContext isContextEligibleForSilentAuth]
 83883 ms     |    | -[AKAppleIDAuthenticationContext authenticationType]
 83883 ms     |    | -[AKAppleIDAuthenticationContext shouldPromptForPasswordOnly]
 83884 ms     |    | -[AKAppleIDAuthenticationContext isEphemeral]
 83884 ms     |    | -[AKAppleIDAuthenticationContext isUsernameEditable]
 83884 ms  -[AKClient bundleID]
 83884 ms  -[AKTrafficClearenceRequest setClearanceHandler:0x126a19640]
 83884 ms  -[AKTrafficClearenceRequest setContext:0x126a0bf00]
 83884 ms  -[AKTrafficClearenceRequest setClientBundleID:0x1f7d89e60]
 83884 ms  -[AKAuthenticationTrafficController _shouldClearRequest:0x126a0be60 withClie
nt:0x1269481d0]
 83884 ms     | -[AKTrafficClearenceRequest context]
```

```
 83884 ms     | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83884 ms     | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83884 ms     | -[AKAuthenticationTrafficController surrogateManager]
 83884 ms     | -[AKAuthenticationSurrogateManager isSurrogateAuthInProgressForClient:0
x1269481d0]
 83884 ms     |    | -[AKAuthenticationSurrogateManager _fetchSurrogateForClient:0x1269
481d0]
 83885 ms     |    |    | -[AKAuthenticationSurrogateManager inProgressSurrogates]
 83885 ms     | -[AKAppleIDAuthenticationContext authenticationType]
 83885 ms     | -[AKAuthenticationTrafficController _hasActiveAppAuths]
 83885 ms     |    | -[AKAuthenticationTrafficController _hasValuesInMap:0x126816150]
 83885 ms     | -[AKAuthenticationTrafficController _hasActiveDaemonAuths]
 83885 ms     |    | -[AKAuthenticationTrafficController _hasValuesInMap:0x126816170]
 83885 ms  -[AKAuthenticationTrafficController _tq_invokeTrafficRequest:0x126a0be60]
 83885 ms     | -[AKTrafficClearenceRequest clientBundleID]
 83885 ms     | -[AKTrafficClearenceRequest context]
 83885 ms     | -[AKTrafficClearenceRequest context]
 83885 ms     | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83886 ms  -[AKTrafficClearenceRequest clearanceHandler]
 83886 ms  -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 83886 ms  -[AKAppleIDAuthenticationService _authenticateWithContext:0x126a0bf00 comple
tion:0x16b31ad40]
 83886 ms     | -[AKAppleIDAuthenticationContext needsRepair]
 83886 ms     | -[AKAppleIDAuthenticationContext needsCredentialRecovery]
 83886 ms     | -[AKAppleIDAuthenticationContext needsNewAppleID]
 83886 ms     | -[AKAppleIDAuthenticationContext needsNewChildAccount]
 83886 ms     | -[AKAppleIDAuthenticationContext needsPasswordChange]
 83886 ms     | -[AKAppleIDAuthenticationContext needsSecurityUpgradeUI]
 83886 ms     | -[AKAppleIDAuthenticationService _performAuthenticationWithContext:0x12
6a0bf00 completion:0x16b31ad40]
 83886 ms     |    | -[AKAppleIDAuthenticationService _isInteractiveAuthRequiredForCont
ext:0x126a0bf00]
 83886 ms     |    |    | -[AKAppleIDAuthenticationContext authenticationType]
 83887 ms     |    | -[AKAppleIDAuthenticationService _attemptBiometricOrPasscodeAuthWi
thContext:0x126a0bf00 completion:0x16b31ad40]
 83887 ms     |    |    | -[AKAppleIDAuthenticationContext isContextEligibleForBiometri
cOrPasscodeAuth]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay
]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _isVerifyCredentialReas
onEligibleForBiometricOrPasscodeAuth]
 83887 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext verifyCredentialRe
ason]
 83887 ms     |    |    |    | +[AKConfiguration sharedConfiguration]
 83887 ms     |    |    |    | -[AKConfiguration shouldAllowExperimentalMode]
 83887 ms     |    |    |    |    | -[AKConfiguration configurationValueForKey:0x1ea6ef
fb8]
 83887 ms     |    |    | -[AKAppleIDAuthenticationService _attemptInteractiveAuthWithC
ontext:0x126a0bf00 completion:0x16b31ad40]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext username]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _password]
 83887 ms     |    |    |    | -[AKAppleIDAuthenticationContext _shouldSkipInitialReach
abilityCheck]
           /* TID 0x2ee7 */
 83889 ms  -[NSXPCListener serviceName]
 83889 ms  -[NSXPCConnection init]
```

```
 83889 ms  -[NSXPCListener delegate]
 83889 ms  -[NSXPCListener delegate]
 83889 ms  -[AKDaemonConnectionManager listener:0x126907500 shouldAcceptNewConnection:0
x126a10460]
 83889 ms     | -[AKClient initWithConnection:0x126a10460]
 83889 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x126a0c890 logging:0x16b
3a6598]
 83889 ms     |    | -[AKClient hasWriteAccess]
 83889 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 83889 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 83889 ms     |    |    |    |    | -[NSXPCConnection auditToken]
           /* TID 0x2767 */
 83889 ms     |    |    |    | -[AKAppleIDAuthenticationService _performInteractiveAuth
WithContext:0x126a0bf00 completion:0x16b31ad40]
 83890 ms     |    |    |    |    | -[AKAppleIDAuthenticationService refreshAuthMetadat
aWithContext:0x126a0bf00 completion:0x16b31ab38]
 83890 ms     |    |    |    |    |    | -[AKAppleIDAuthenticationService _refreshLocal
AccountAndUpdateContext:0x126a0bf00 completion:0x16b31aac8]
 83890 ms     |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext _shouldR
efreshAccountAndUpdateContext]
 83890 ms     |    |    |    |    |    |    | -[AKAppleIDAuthenticationService _updateA
ltDSIDAndUsername:0x126a0bf00]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext alt
DSID]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext DSI
D]
 83890 ms     |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext altDSID]
 83890 ms     |    |    |    |    |    |    | -[AKAppleIDAuthenticationService _refresh
AuthModeIfNecessaryForContext:0x126a0bf00 completion:0x16b31a998]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext nee
dsNewAppleID]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext nee
dsNewChildAccount]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext nee
dsCredentialRecovery]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext nee
dsPasswordChange]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext use
rname]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext use
rname]
 83890 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext aut
henticationType]
 83891 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContext aut
hKitAccount:0x0]
 83891 ms     |    |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContex
t altDSID]
 83891 ms     |    |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContex
t DSID]
 83891 ms     |    |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationContex
t username]
 83891 ms     |    |    |    |    |    |    |    |    | +[AKAccountManager sharedInstan
ce]
 83891 ms     |    |    |    |    |    |    |    |    |    | +[AKAccountManager isAccou
ntsFrameworkAvailable]
 83891 ms     |    |    |    |    |    |    |    |    | -[AKAccountManager authKitAccou
```

```
ntWithAppleID:0x126a053b0]
 83891 ms     |    |    |    |    |    |    |    |    |    | -[AKAccountManager authKit
AccountType]
 83891 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCConnection initWith
MachServiceName:0x1e8ff16b8 options:0x0]
 83891 ms     |    |    |    |    |    |    |    |    |    |    | -[ACTrackedXPCConnect
ion init]
 83891 ms     |    |    |    |    |    |    |    |    |    |    |    | -[NSXPCConnectio
n init]
           /* TID 0x2ee7 */
 83891 ms     |    | -[AKClient description]
 83891 ms     |    |    | -[AKClient name]
 83891 ms     |    |    |    | -[NSXPCConnection processIdentifier]
 83892 ms     |    |    | -[NSXPCConnection processIdentifier]
           /* TID 0x2767 */
 83892 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCConnection setRemot
eObjectInterface:0x125e0f350]
 83892 ms     |    |    |    |    |    |    |    |    |    | +[NSXPCInterface interface
WithProtocol:0x1f9747d58]
           /* TID 0x2ee7 */
 83892 ms     | -[AKAnisetteProvisioningService initWithClient:0x126a0c890]
 83892 ms     |    | +[AKAbsintheSigner sharedSigner]
           /* TID 0x2767 */
 83892 ms     |    |    |    |    |    |    |    |    |    |    | -[NSXPCInterface init
]
           /* TID 0x2ee7 */
 83892 ms     |    | +[AKAttestationSigner sharedSigner]
 83892 ms     | -[NSXPCConnection setExportedObject:0x126a212f0]
           /* TID 0x2767 */
 83892 ms     |    |    |    |    |    |    |    |    |    |    | -[NSXPCInterface setP
rotocol:0x1f9747d58]
           /* TID 0x2ee7 */
 83892 ms     | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
 83892 ms     | -[NSXPCConnection setExportedInterface:0x125d16640]
           /* TID 0x2767 */
 83892 ms     |    |    |    |    |    |    |    |    | -[NSXPCConnection setExpor
tedInterface:0x126b10170]
 83892 ms     |    |    |    |    |    |    |    |    | -[NSXPCConnection setExpor
tedObject:0x126b159f0]
           /* TID 0x2ee7 */
 83892 ms     | +[AKAnisetteProvisioningClientInterface XPCInterface]
 83892 ms     | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
 83892 ms     | -[NSXPCConnection resume]
           /* TID 0x2767 */
 83892 ms     |    |    |    |    |    |    |    |    | -[NSXPCConnection setInter
ruptionHandler:0x16b31a2d8]
 83892 ms     |    |    |    |    |    |    |    |    | -[NSXPCConnection setInval
idationHandler:0x16b31a2b0]
 83892 ms     |    |    |    |    |    |    |    |    | -[NSXPCConnection resume]
           /* TID 0x2ee7 */
 83893 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126a21320 flags:0x21]
 83893 ms     | -[NSXPCCoder init]
 83893 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSigna
ture:0x16b3a60d0 allowedClasses:0x16b3a60d8]
 83893 ms     | -[NSXPCCoder dealloc]
 83893 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
```

```
 83893 ms     | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessar
y:0x1 device:0x0 completion:0x16b3a62a0]
 83893 ms     |    | -[AKClient hasInternalPrivateAccess]
 83894 ms     |    |    | -[AKClient hasInternalPrivateEntitlementAccess]
           /* TID 0x2767 */
 83894 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCConnection synchron
ousRemoteObjectProxyWithErrorHandler:0x16b31a410]
 83894 ms     |    |    |    |    |    |    |    |    |    |    | -[NSXPCConnection _re
moteObjectInterfaceClass]
 83894 ms     |    |    |    |    |    |    |    |    |    |    |    | -[NSXPCInterface
 _customSubclass]
           /* TID 0x2ee7 */
 83894 ms     |    |    |    | -[AKClient hasInternalAccess]
 83894 ms     |    |    |    |    | -[AKClient hasOwnerAccess]
 83894 ms     |    |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a29
0]
           /* TID 0x2767 */
 83894 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCInterface _methodSi
gnatureForRemoteSelector:0x19cefc453]
 83894 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCConnection _sendInv
ocation:0x16b31a130 orArguments:0x0 count:0x0 methodSignature:0x9d85aafdd9ffdaff select
or:0x19cefc453 withProxy:0x126b17cd0]
 83894 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCInterface _int
erfaceForArgument:0x0 ofSelector:0x19cefc453 reply:0x0]
           /* TID 0x2ee7 */
 83894 ms     |    |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x1
0503a290]
 83894 ms     |    |    |    |    |    |    |    | -[NSXPCConnection auditToken]
           /* TID 0x2767 */
 83894 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCCoder init]
 83895 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCCoder dealloc]
 83895 ms     |    |    |    |    |    |    |    |    |    | -[NSXPCInterface _has
ProxiesInReplyBlockArgumentsOfSelector:0x19cefc453]
           /* TID 0x2ee7 */
 83897 ms     |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a270]
 83897 ms     |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a
270]
 83897 ms     |    |    |    |    |    | -[NSXPCConnection auditToken]
 83897 ms     |    | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNe
cessary:0x1 device:0x0 completion:0x16b3a62a0]
 83897 ms     |    |    | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
 83897 ms     |    |    |    | -[AKAnisetteProvisioningService _nativeAnisetteService]
 83897 ms     |    |    |    |    | -[AKNativeAnisetteService initWithClient:0x126a0c89
0]
 83897 ms     |    |    | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNece
ssary:0x1 withCompletion:0x16b3a62a0]
 83897 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
 83897 ms     | +[AKURLBag bagForAltDSID:0x0]
 83897 ms     |    | +[AKURLBag sharedBag]
 83897 ms     | -[AKURLBag lastKnownIDMSEnvironment]
 83897 ms     |    | +[AKConfiguration sharedConfiguration]
 83897 ms     |    | -[AKConfiguration lastKnownIDMSEnvironment]
 83897 ms     |    |    | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
 83898 ms     | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
 83898 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xfffff
ffffffffffe withError:0x16b3a68a8]
```

```
 83898 ms     | +[AKADIProxy getIDMSRoutingInfo:0x16b3a6838 forDSID:0xfffffffffffffffe]
           /* TID 0x2767 */
 83901 ms     |    |    |    |    |    |    |    |    |    |    | -[NSXPCConnection _de
codeAndInvokeReplyBlockWithEvent:0x126a21320 sequence:0x1 replyInfo:0x126b05970]
 83901 ms     |    |    |    |    |    |    |    |    |    |    |    | -[NSXPCCoder ini
t]
 83902 ms     |    |    |    |    |    |    |    |    |    |    |    | -[NSXPCInterface
 _selectorIsAllowed:0x19cefc453 isReply:0x1 methodSignature:0x16b319260 allowedClasses:
0x16b319268]
 83902 ms     |    |    |    |    |    |    |    |    |    |    | -[NSXPCCoder dealloc]
 83902 ms     |    |    |    |    |    |    |    | -[AKAccountManager shouldUpdateAuthM
odeForAccount:0x126a20e20]
 83902 ms     |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationService _re
freshAuthModeForContext:0x126a0bf00 completion:0x16b31a998]
 83902 ms     |    |    |    |    |    |    |    |    | -[AKAppleIDAuthenticationServic
e fetchAuthModeWithContext:0x126a0bf00 completion:0x16b31a8b8]
 83902 ms     |    |    |    |    |    |    |    |    |    | -[AKClient hasInternalPriv
ateAccess]
 83902 ms     |    |    |    |    |    |    |    |    |    |    | -[AKClient hasInterna
lPrivateEntitlementAccess]
 83902 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKClient hasIn
ternalAccess]
 83902 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKClient
hasOwnerAccess]
 83902 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -[AKCl
ient _boolValueForEntitlement:0x10503a290]
 83902 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[NSXPCConnection valueForEntitlement:0x10503a290]
 83902 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[NSXPCConnection auditToken]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -[AKClient
_boolValueForEntitlement:0x10503a270]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    | -[NSXP
CConnection valueForEntitlement:0x10503a270]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[NSXPCConnection auditToken]
           /* TID 0x2ee7 */
 83904 ms     | -[AKNativeAnisetteService _unsafe_anisetteDataForDSID:0xffffffffffffffff
e withError:0x16b3a68a8]
 83904 ms     |    | +[AKADIProxy requestOTPForDSID:0xfffffffffffffffe outMID:0x16b3a67
e8 outMIDSize:0x16b3a67dc outOTP:0x16b3a67e0 outOTPSize:0x16b3a67d8]
           /* TID 0x2767 */
 83904 ms     |    |    |    |    |    |    |    |    |    | +[AKUserInfoController sha
redController]
 83904 ms     |    |    |    |    |    |    |    |    |    | -[AKUserInfoController fet
chAuthModeWithContext:0x126a0bf00 client:0x1269481d0 completion:0x16b31a838]
 83904 ms     |    |    |    |    |    |    |    |    |    |    | -[AKURLRequestProvide
rImpl initWithContext:0x126a0bf00 urlBagKey:0x1ea6f14b8]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKURLRequestPr
oviderImpl initWithContext:0x126a0bf00 urlBagKey:0x1ea6f14b8 shouldCacheResource:0x0]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKURLRequ
estProviderImpl initWithContext:0x126a0bf00]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKURLRequ
estProviderImpl _setRequestURL]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -[AKAp
pleIDAuthenticationContext altDSID]
```

```
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    | +[AKUR
LBag bagForAltDSID:0x0]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | +
[AKURLBag sharedBag]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKUR
LBag urlAtKey:0x1ea6f14b8]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKURLBag _urlAtKey:0x1ea6f14b8]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[AKURLBag _requestNewURLBagIfNecessaryWithError:0x0]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKURLBag _urlBagFromCache:0x0 withError:0x0]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKURLBag bagProvider]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKURLBag bagProvider]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKURLBag altDSID]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKURLBagService urlBagFromCache:0x0 altDSID:0x0 error:0x0]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[AKURLBagService _cachedURLBagForAltDSID:0x0]
 83904 ms     |    |    |    |    |    |    |    |    |    | -[AKURLRequestProvide
rImpl setClient:0x1269481d0]
 83904 ms     |    |    |    |    |    |    |    |    |    | -[AKServiceController
Impl initWithRequestProvider:0x126a22930]
 83904 ms     |    |    |    |    |    |    |    |    |    | -[AKServiceController
Impl executeRequestWithCompletion:0x16b31a7c0]
 83904 ms     |    |    |    |    |    |    |    |    |    |    | -[AKURLRequestPr
oviderImpl buildRequest:0x16b31a778]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKURLRequ
estProviderImpl requestURL]
 83904 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKURLRequ
estProviderImpl authKitBody]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKURLRequ
estProviderImpl authKitBodyData]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKAuthMod
eRequestProvider signRequest:0x126a21b10 error:0x16b31a6e8]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKGr
andSlamRequestProvider signRequest:0x126a21b10 error:0x16b31a6e8]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKURLRequestProviderImpl context]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKAppleIDAuthenticationContext set_shouldSendIdentityTokenForRemoteUI:0x0]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKURLRequestProviderImpl client]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKDServerUIController initWithClient:0x1269481d0]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKURLRequestProviderImpl context]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKDServerUIController resourceLoadDelegateWithContext:0x126a0bf00]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[AKDServerUIController _decorateLoadDelegate:0x126a232e0 withContext:0x126a0bf00]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDServerResourceLoadDelegate decorateWithContext:0x126a0bf00]
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 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate altDSID]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext altDSID]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setAltDSID:0x0]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext needsNewAppleID]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext needsNewChildAccount]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext proxiedDevice]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext needsSecurityUpgradeUI]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext isEphemeral]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext isAppleIDLoginEnabled]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext custodianRecoveryToken]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext serviceType]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setServiceType:0x1]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext appProvidedContext]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setAppProvidedContext:0x126a0fe20]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext _proxiedAppName]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setProxyAppName:0x0]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setShouldSendPhoneNumber:0x1]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext hasEmptyPassword]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setHasEmptyPasswordOverride:0x0]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext securityUpgradeContext]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setSecurityUpgradeContext:0x126a057
60]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext anticipateEscrowAttempt]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setShouldSendICSCIntentHeader:0x1]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext shouldOfferSecurityUpgrade]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setShouldOfferSecurityUpgrade:0x1]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKFollowUpProviderFactory sharedAuthKitFollowupProvider]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKFollowUpController pendingFollowUpItems:0x0]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
```

```
  |    |    |    | -[NSXPCConnection synchronousRemoteObjectProxyWithErrorHandler:0x16b
31a428]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCConnection _remoteObjectInterfaceClass]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCInterface _customSubclass]
 83905 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[NSXPCConnection _sendSelector:0x19e667b96 withProxy:0x126a23430 ar
g1:0x1ea6ece38 arg2:0x16b31a3f8]
 83906 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19e667b96]
 83906 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCConnection _sendInvocation:0x0 orArguments:0x16b31a368 c
ount:0x2 methodSignature:0x9d85aafdd9ff885f selector:0x19e667b96 withProxy:0x126a23430]
 83906 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19
e667b96 reply:0x0]
 83906 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCCoder init]
 83906 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCCoder dealloc]
 83906 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelecto
r:0x19e667b96]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x12
6a237f0 sequence:0x9 replyInfo:0x126a234e0]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    | -[NSXPCCoder init]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    | -[NSXPCInterface _selectorIsAllowed:0x19e667b96 isRep
ly:0x1 methodSignature:0x16b3196b0 allowedClasses:0x16b3196b8]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCCoder dealloc]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKFollowUpServerPayloadFormatter pendingAuthKitFollowUpPayload:0x1f7b37
500]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setFollowupItems:0x126a23710]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext proxiedDeviceAnisetteData]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setProxiedDeviceAnisetteData:0x0]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext proxiedDevice]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDServerResourceLoadDelegate setProxiedDevice:0x0]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKClient name]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDServerResourceLoadDelegate setClientAppName:0x1f7d8ab20]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDAuthenticationContext authKitAccount:0x16b31a598]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext altDSID]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
```

```
  |    |    | -[AKAppleIDAuthenticationContext DSID]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAppleIDAuthenticationContext username]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKAccountManager sharedInstance]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | +[AKAccountManager isAccountsFrameworkAvailable]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAccountManager authKitAccountWithAppleID:0x126a053b0]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[AKAccountManager authKitAccountType]
           /* TID 0x2ee7 */
 83907 ms     |    | +[AKADIProxy dispose:0x126b0e120]
 83907 ms     |    | +[AKADIProxy dispose:0x126b077e0]
           /* TID 0x2767 */
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[NSXPCConnection synchronousRemoteObjectProxyWithErrorHandler:0x16b
31a080]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCConnection _remoteObjectInterfaceClass]
 83907 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCInterface _customSubclass]
           /* TID 0x2ee7 */
 83907 ms     |    | -[AKAnisetteData setMachineID:0x126b05830]
 83907 ms     |    | -[AKAnisetteData setOneTimePassword:0x126b0e0e0]
 83908 ms     | -[AKAnisetteData setRoutingInfo:0x3050500]
 83908 ms  -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
 83908 ms  -[NSXPCCoder init]
           /* TID 0x2767 */
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19cefc453]
           /* TID 0x2ee7 */
 83908 ms  -[AKAnisetteData encodeWithCoder:0x12900f600]
           /* TID 0x2767 */
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[NSXPCConnection _sendInvocation:0x16b319da0 orArguments:0x0 count:
0x0 methodSignature:0x9d85aafdd9ffdaff selector:0x19cefc453 withProxy:0x126a23790]
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19cefc4
53 reply:0x0]
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCCoder init]
           /* TID 0x2ee7 */
 83908 ms  -[NSXPCCoder dealloc]
 83908 ms  -[AKAnisetteData .cxx_destruct]
           /* TID 0x2767 */
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCCoder dealloc]
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x1
9cefc453]
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x126a23e
10 sequence:0x2 replyInfo:0x126a23950]
 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCCoder init]
```

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 83908 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCInterface _selectorIsAllowed:0x19cefc453 isReply:0x
1 methodSignature:0x16b318ed0 allowedClasses:0x16b318ed8]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | -[NSXPCCoder dealloc]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDAuthenticationContext _shouldSendGrandSlamTokensForRemoteUI]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | +[AKAccountManager sharedInstance]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKAccountManager isAccountsFrameworkAvailable]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAccountManager hearbeatTokenForAccount:0x126a24160]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAccountManager hearbeatTokenForAccount:0x126a24160 error:0x0]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[AKAccountManager _tokenWithName:0x1e8ff1358 forAccount:0x126a24160
 error:0x0]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    | +[AKAccountManager performWithinPersonaForAccount:0x126a24160 w
ithBlock:0x16b31a470]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCConnection synchronousRemoteObjectProxyWithErrorHan
dler:0x16b31a120]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    | -[NSXPCConnection _remoteObjectInterfaceClass]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    | -[NSXPCInterface _customSubclass]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    | -[NSXPCConnection _sendSelector:0x19dd54344 withProxy:0x12
6a25030 arg1:0x126a24410 arg2:0x16b31a0b0]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    | -[NSXPCInterface _methodSignatureForRemoteSelector:0x
19dd54344]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    | -[NSXPCConnection _sendInvocation:0x0 orArguments:0x1
6b31a028 count:0x2 methodSignature:0x9d85aafdd9ff885f selector:0x19dd54344 withProxy:0x
126a25030]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    | -[NSXPCInterface _interfaceForArgument:0x0 ofSel
ector:0x19dd54344 reply:0x0]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    | -[NSXPCCoder init]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    | -[NSXPCCoder dealloc]
 83909 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    | -[NSXPCInterface _hasProxiesInReplyBlockArgument
sOfSelector:0x19dd54344]
 83920 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    | -[NSXPCConnection _decodeAndInvokeReplyBlockWith
Event:0x126b16e70 sequence:0x3 replyInfo:0x126a24520]
 83920 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    |    | -[NSXPCCoder init]
 83920 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    |    |    | -[NSXPCInterface _selectorIsAllowed:0x19dd5
4344 isReply:0x1 methodSignature:0x16b319370 allowedClasses:0x16b319378]
```

```
 83921 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    |    |    |    | -[NSXPCCoder dealloc]
 83921 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDServerResourceLoadDelegate setHeartbeatToken:0x126a0f320]
 83921 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | +[AKAccountManager sharedInstance]
 83921 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKAccountManager isAccountsFrameworkAvailable]
 83921 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAccountManager activeServiceNamesForAccount:0x126a24160]
 83921 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKAccountManager servicesUsingAccount:0x126a24160]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKAccountManager stringRepresentationForService:0x5]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKAccountManager stringRepresentationForService:0x4]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | +[AKAccountManager stringRepresentationForService:0x1]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDServerResourceLoadDelegate setLoggedInServices:0x126a0f9a0]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDAuthenticationContext _shouldSendIdentityTokenForRemoteUI]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDAuthenticationContext needsCredentialRecovery]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAppleIDAuthenticationContext needsPasswordChange]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKURLRequestProviderImpl urlBagKey]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKAppleIDServerResourceLoadDelegate setInitialURLRequestKey:0x1ea6f14b8]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKURLRequestProviderImpl dataCenterIdentifier]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKAppleIDServerResourceLoadDelegate setDataCenterIdentifier:0x0]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKGrandSlamRequestProvider authenticatedRequest]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKAppleIDServerResourceLoadDelegate signRequestWithCommonHeaders:0x126a21b10]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[AKAppleIDServerResourceLoadDelegate signRequestWithBasicHeaders:0x126a21b10]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | +[AKDevice currentDevice]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKDevice serverFriendlyDescription]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | +[AKDevice currentDevice]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKDevice uniqueDeviceIdentifier]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | +[AKDevice currentDevice]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKDevice serialNumber]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | +[AKDevice currentDevice]
 83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKDevice isInternalBuild]
```

```
83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKDevice currentDevice]
83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKDevice isInternalBuild]
83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKDevice currentDevice]
83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKDevice locale]
83925 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKDevice currentDevice]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKDevice MLBSerialNumber]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKDevice currentDevice]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKDevice ROMAddress]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKDevice currentDevice]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKDevice isMultiUserMode]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 | +[AKDevice currentDeviceAuthenticationModeForAuthContext:0x126a0bf00]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKDevice _currentDeviceAuthenticationMode]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 | -[AKAppleIDServerResourceLoadDelegate _signWithFeatureOptInHeaders:0x126a21b10]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKConfiguration sharedConfiguration]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKConfiguration shouldAllowExperimentalMode]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    |    | -[AKConfiguration configurationValueForKey:0x1ea6effb8]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKDevice currentDevice]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKDevice isInternalBuild]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKConfiguration sharedConfiguration]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKConfiguration shouldEnableTestAccountMode]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    |    | -[AKConfiguration configurationValueForKey:0x1ea6f0098]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKConfiguration sharedConfiguration]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKConfiguration shouldAddHSA2CreateHeader]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    |    | -[AKConfiguration configurationValueForKey:0x1ea6eff58]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKConfiguration sharedConfiguration]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | -[AKConfiguration shouldAllowPhoneNumberAccounts]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    |    | -[AKConfiguration configurationValueForKey:0x1ea6eff98]
83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
 |    | +[AKConfiguration sharedConfiguration]
```

```
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKConfiguration requestedCloudPartition]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKConfiguration configurationValueForKey:0x1ea6f00d8]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[AKConfiguration _validCloudPartition:0x0]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKDServerUIController .cxx_destruct]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKUR
LRequestProviderImpl context]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKAp
pleIDAuthenticationContext username]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | +[AKDe
vice currentDevice]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKDe
vice isMultiUserMode]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKUR
LRequestProviderImpl context]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKAp
pleIDAuthenticationContext appProvidedContext]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKUR
LRequestProviderImpl context]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKAp
pleIDAuthenticationContext appProvidedContext]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKUR
LRequestProviderImpl context]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKAp
pleIDAuthenticationContext isContextRequestingReauthForExistingService]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKAppleIDAuthenticationContext authKitAccount:0x0]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[AKAppleIDAuthenticationContext altDSID]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[AKAppleIDAuthenticationContext DSID]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[AKAppleIDAuthenticationContext username]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | +[AKAccountManager sharedInstance]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | +[AKAccountManager isAccountsFrameworkAvailable]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | -[AKAccountManager authKitAccountWithAppleID:0x126a053b0]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[AKAccountManager authKitAccountType]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[NSXPCConnection synchronousRemoteObjectProxyWithErrorHandler:0x16b31a140]
 83926 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[NSXPCConnection _remoteObjectInterfaceClass]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[NSXPCInterface _customSubclass]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19cefc453]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    | -[NSXPCConnection _sendInvocation:0x16b319e60 orArguments:0x0 count:0x0 method
Signature:0x9d85aafdd9ffdaff selector:0x19cefc453 withProxy:0x126a24c90]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |
```

```
  |    |    | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19cefc453 reply:0
x0]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[NSXPCCoder init]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[NSXPCCoder dealloc]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x19cefc453]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x126b16e70 sequenc
e:0x4 replyInfo:0x126a23c40]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[NSXPCCoder init]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    |    | -[NSXPCInterface _selectorIsAllowed:0x19cefc453 isReply:0x1 methodSi
gnature:0x16b318f90 allowedClasses:0x16b318f98]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  |    |    | -[NSXPCCoder dealloc]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    | +
[AKAccountManager sharedInstance]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
  | +[AKAccountManager isAccountsFrameworkAvailable]
 83927 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    |    | -
[AKAccountManager servicesUsingAccount:0x126b0aa10]
 83928 ms     |    |    |    |    |    |    |    |    |    |    |    | -[AKServiceContr
ollerImpl _executeRequest:0x126b07210 completion:0x16b31a748]
 83928 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKURLRequ
estProviderImpl shouldCacheResource]
 83928 ms     |    |    |    |    |    |    |    |    |    |    |    |    | +[AKURLSess
ion sharedURLSession]
 83928 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[AKURLSess
ion beginAuthenticationDataTaskWithRequest:0x126b07210 completionHandler:0x16b31a6e0]
 83928 ms     |    |    |    |    |    |    |    |    |    |    |    |    |    | -[AKUR
LSession beginDataTaskWithRequest:0x126b07210 completionHandler:0x16b31a650]
 83928 ms  -[AKTrafficClearenceRequest .cxx_destruct]
 83928 ms  -[AKAppleIDServerResourceLoadDelegate .cxx_destruct]
           /* TID 0x4a03 */
 83928 ms  -[AKURLSession _URLSession]
 83931 ms  -[AKAppleIDSession copyWithZone:0x0]
 83931 ms     | -[AKAppleIDSession initWithIdentifier:0x1ea6ed738]
 83931 ms  -[AKURLDataTask setRequest:0x126b07210]
 83931 ms  -[AKURLDataTask setRetryCount:0x0]
 83931 ms  -[AKURLDataTask setCompletionHandler:0x126b0e360]
 83932 ms  -[AKURLDataTask setUnderlyingTask:0x126a23790]
 83934 ms  -[AKAppleIDSession URLSession:0x125e16f80 task:0x126a23790 getAppleIDRequest
OrHeadersForResponse:0x0 completionHandler:0x16b4be680]
 83934 ms     | -[AKAppleIDSession _generateAppleIDHeadersForSessionTask:0x126a23790 wi
thCompletion:0x16b4be5c8]
 83934 ms     |    | -[AKAppleIDSession _nativeAnisetteController]
 83934 ms     |    |    | -[AKAnisetteProvisioningController init]
 83934 ms     |    | -[AKAnisetteProvisioningController anisetteDataForURLRequest:0x126
a18120 completion:0x16b4be488]
 83934 ms     |    |    | -[AKAnisetteProvisioningController fetchAnisetteDataAndProvis
ionIfNecessary:0x1 withCompletion:0x16b4be488]
 83934 ms     |    |    |    | -[AKAnisetteProvisioningController _anisetteServiceConne
ction]
```

```
 83934 ms     |    |    |    |    | -[NSXPCConnection initWithMachServiceName:0x1ea6f09
b8 options:0x0]
 83934 ms     |    |    |    |    |    | -[NSXPCConnection init]
 83934 ms     |    |    |    |    | +[AKAnisetteProvisioningDaemonInterface XPCInterfac
e]
 83934 ms     |    |    |    |    | -[NSXPCConnection setRemoteObjectInterface:0x125d16
640]
 83934 ms     |    |    |    |    | -[NSXPCConnection setExportedObject:0x126a243f0]
 83934 ms     |    |    |    |    | +[AKAnisetteProvisioningClientInterface XPCInterfac
e]
 83934 ms     |    |    |    |    | -[NSXPCConnection setExportedInterface:0x125d16a50]
 83934 ms     |    |    |    |    | -[NSXPCConnection setInterruptionHandler:0x16b4be1f
0]
 83934 ms     |    |    |    |    | -[NSXPCConnection setInvalidationHandler:0x16b4be1c
8]
 83934 ms     |    |    |    |    | -[NSXPCConnection resume]
 83934 ms     |    |    |    | -[NSXPCConnection remoteObjectProxyWithErrorHandler:0x16
b4be2a8]
 83935 ms     |    |    |    |    | -[NSXPCConnection _remoteObjectInterfaceClass]
 83935 ms     |    |    |    |    |    | -[NSXPCInterface _customSubclass]
 83935 ms     |    |    |    | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19d
37a17a]
 83935 ms     |    |    |    | -[NSXPCConnection _sendInvocation:0x16b4bdff0 orArgument
s:0x0 count:0x0 methodSignature:0x9d85aafdd9ff48ff selector:0x19d37a17a withProxy:0x126
b17cd0]
 83935 ms     |    |    |    |    | -[NSXPCInterface _interfaceForArgument:0x1 ofSelect
or:0x19d37a17a reply:0x0]
 83935 ms     |    |    |    |    | -[NSXPCCoder init]
 83935 ms     |    |    |    |    | -[NSXPCCoder dealloc]
 83935 ms     |    |    |    |    | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOf
Selector:0x19d37a17a]
           /* TID 0x2767 */
 83935 ms  -[NSXPCListener serviceName]
 83935 ms  -[NSXPCConnection init]
 83935 ms  -[NSXPCListener delegate]
 83935 ms  -[NSXPCListener delegate]
 83935 ms  -[AKDaemonConnectionManager listener:0x126907500 shouldAcceptNewConnection:0
x126a24be0]
 83935 ms     | -[AKClient initWithConnection:0x126a24be0]
 83935 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x126a254e0 logging:0x16b
31a598]
 83935 ms     |    | -[AKClient hasWriteAccess]
 83935 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 83935 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 83935 ms     |    |    |    |    | -[NSXPCConnection auditToken]
 83935 ms     |    | -[AKClient hasInternalAccess]
 83935 ms     |    |    | -[AKClient hasOwnerAccess]
 83935 ms     |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a290]
 83936 ms     |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a290]
 83936 ms     |    |    |    |    |    | -[NSXPCConnection auditToken]
 83936 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a270]
 83936 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a270]
 83936 ms     |    |    |    |    | -[NSXPCConnection auditToken]
 83936 ms     |    | -[AKClient description]
 83936 ms     |    |    | -[AKClient name]
 83936 ms     |    |    |    | -[NSXPCConnection processIdentifier]
```

```
 83936 ms     |    |    | -[NSXPCConnection processIdentifier]
 83936 ms     | -[AKAnisetteProvisioningService initWithClient:0x126a254e0]
 83936 ms     |    | +[AKAbsintheSigner sharedSigner]
 83936 ms     |    | +[AKAttestationSigner sharedSigner]
 83936 ms     | -[NSXPCConnection setExportedObject:0x126a255f0]
 83936 ms     | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
 83936 ms     | -[NSXPCConnection setExportedInterface:0x125d16640]
 83936 ms     | +[AKAnisetteProvisioningClientInterface XPCInterface]
 83936 ms     | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
 83936 ms     | -[NSXPCConnection resume]
 83936 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126a257f0 flags:0x21]
 83936 ms     | -[NSXPCCoder init]
 83936 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSigna
ture:0x16b31a0d0 allowedClasses:0x16b31a0d8]
 83936 ms     | -[NSXPCCoder dealloc]
 83936 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
 83936 ms     | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessar
y:0x1 device:0x0 completion:0x16b31a2a0]
 83936 ms     |    | -[AKClient hasInternalPrivateAccess]
 83936 ms     |    |    | -[AKClient hasInternalPrivateEntitlementAccess]
 83936 ms     |    |    |    | -[AKClient hasInternalAccess]
 83936 ms     |    |    |    |    | -[AKClient hasOwnerAccess]
 83936 ms     |    |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a29
0]
 83936 ms     |    |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x1
0503a290]
 83936 ms     |    |    |    |    |    |    |    | -[NSXPCConnection auditToken]
 83936 ms     |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a270]
 83936 ms     |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a
270]
 83936 ms     |    |    |    |    |    |    | -[NSXPCConnection auditToken]
 83936 ms     |    | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNe
cessary:0x1 device:0x0 completion:0x16b31a2a0]
 83936 ms     |    |    | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
 83936 ms     |    |    |    | -[AKAnisetteProvisioningService _nativeAnisetteService]
 83936 ms     |    |    |    |    | -[AKNativeAnisetteService initWithClient:0x126a254e
0]
 83936 ms     |    |    | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNece
ssary:0x1 withCompletion:0x16b31a2a0]
 83936 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
 83936 ms     | +[AKURLBag bagForAltDSID:0x0]
 83936 ms     |    | +[AKURLBag sharedBag]
 83936 ms     | -[AKURLBag lastKnownIDMSEnvironment]
 83936 ms     |    | +[AKConfiguration sharedConfiguration]
 83936 ms     |    | -[AKConfiguration lastKnownIDMSEnvironment]
 83936 ms     |    |    | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
 83936 ms     | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
 83936 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xfffff
fffffffffffe withError:0x16b31a8a8]
 83936 ms     | +[AKADIProxy getIDMSRoutingInfo:0x16b31a838 forDSID:0xfffffffffffffffe]
 83937 ms     | -[AKNativeAnisetteService _unsafe_anisetteDataForDSID:0xfffffffffffffff
e withError:0x16b31a8a8]
 83937 ms     |    | +[AKADIProxy requestOTPForDSID:0xfffffffffffffffe outMID:0x16b31a7
e8 outMIDSize:0x16b31a7dc outOTP:0x16b31a7e0 outOTPSize:0x16b31a7d8]
 83937 ms     |    | +[AKADIProxy dispose:0x126a26580]
 83937 ms     |    | +[AKADIProxy dispose:0x126a24a80]
```

```
 83937 ms     |    | -[AKAnisetteData setMachineID:0x126a25670]
 83937 ms     |    | -[AKAnisetteData setOneTimePassword:0x126a256d0]
 83937 ms     | -[AKAnisetteData setRoutingInfo:0x3050500]
 83937 ms  -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
 83937 ms  -[NSXPCCoder init]
 83937 ms  -[AKAnisetteData encodeWithCoder:0x128811000]
 83937 ms  -[NSXPCCoder dealloc]
 83937 ms  -[AKAnisetteData .cxx_destruct]
 83937 ms  -[NSXPCConnection _decodeAndInvokeReplyBlockWithEvent:0x126a25620 sequence:0
x1 replyInfo:0x126b05fd0]
 83937 ms     | -[NSXPCCoder init]
 83937 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x1 methodSigna
ture:0x16b31a3f0 allowedClasses:0x16b31a3f8]
 83937 ms     | +[AKAnisetteData supportsSecureCoding]
 83937 ms     | -[AKAnisetteData initWithCoder:0x12880d000]
 83937 ms     | -[AKAppleIDSession _genericAppleIDHeadersDictionaryForRequest:0x126a181
20]
 83938 ms     |    | +[AKDevice currentDevice]
 83938 ms     |    | -[AKDevice locale]
 83938 ms     | -[AKAnisetteData machineID]
 83938 ms     | -[AKAnisetteData oneTimePassword]
 83938 ms     | -[AKAnisetteData routingInfo]
 83938 ms     | +[AKDevice currentDevice]
 83938 ms     | -[AKDevice localUserUUID]
 83938 ms     | +[AKConfiguration sharedConfiguration]
 83938 ms     | -[AKConfiguration shouldAllowTestApplication]
 83938 ms     |    | -[AKConfiguration configurationValueForKey:0x1ea6efff8]
 83938 ms     | -[AKAppleIDSession _pairedDeviceAnisetteController]
 83938 ms  -[AKAnisetteData .cxx_destruct]
 83938 ms  -[NSXPCCoder dealloc]
 84336 ms  -[NSXPCConnection invalidationHandler]
 84337 ms  -[NSXPCConnection _additionalInvalidationHandler]
 84337 ms  -[NSXPCConnection setInvalidationHandler:0x0]
 84337 ms  -[NSXPCConnection setInterruptionHandler:0x0]
 84337 ms  -[NSXPCConnection setExportedObject:0x0]
 84337 ms     | -[AKAnisetteProvisioningService .cxx_destruct]
 84337 ms     |    | -[AKNativeAnisetteService .cxx_destruct]
 84338 ms     |    | -[AKClient .cxx_destruct]
 84338 ms  -[NSXPCConnection dealloc]
 84342 ms  -[NSXPCListener serviceName]
 84342 ms  -[NSXPCConnection init]
 84342 ms  -[NSXPCListener delegate]
 84342 ms  -[NSXPCListener delegate]
 84343 ms  -[AKDaemonConnectionManager listener:0x126907500 shouldAcceptNewConnection:0
x125e33170]
 84343 ms     | -[AKClient initWithConnection:0x125e33170]
 84343 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x125e2b900 logging:0x16b
31a598]
 84343 ms     |    | -[AKClient hasWriteAccess]
 84343 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 84343 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 84343 ms     |    |    |    |    | -[NSXPCConnection auditToken]
 84347 ms     |    | -[AKClient description]
 84347 ms     |    |    | -[AKClient name]
 84347 ms     |    |    |    | -[NSXPCConnection processIdentifier]
 84347 ms     |    |    | -[NSXPCConnection processIdentifier]
```

```
 84347 ms     | -[AKAnisetteProvisioningService initWithClient:0x125e2b900]
 84347 ms     |    | +[AKAbsintheSigner sharedSigner]
 84347 ms     |    | +[AKAttestationSigner sharedSigner]
 84348 ms     | -[NSXPCConnection setExportedObject:0x126889ce0]
 84348 ms     | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
 84348 ms     | -[NSXPCConnection setExportedInterface:0x125d16640]
 84348 ms     | +[AKAnisetteProvisioningClientInterface XPCInterface]
 84348 ms     | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
 84348 ms     | -[NSXPCConnection resume]
 84349 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x12688b5c0 flags:0x21]
 84349 ms     | -[NSXPCCoder init]
 84349 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSigna
ture:0x16b31a0d0 allowedClasses:0x16b31a0d8]
 84349 ms     | -[NSXPCCoder dealloc]
 84349 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
 84349 ms     | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessar
y:0x1 device:0x0 completion:0x16b31a2a0]
 84349 ms     |    | -[AKClient hasInternalPrivateAccess]
 84349 ms     |    |    | -[AKClient hasInternalPrivateEntitlementAccess]
 84349 ms     |    |    |    | -[AKClient hasInternalAccess]
 84349 ms     |    |    |    |    | -[AKClient hasOwnerAccess]
 84349 ms     |    |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a29
0]
 84349 ms     |    |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x1
0503a290]
 84349 ms     |    |    |    |    |    |    |    | -[NSXPCConnection auditToken]
 84352 ms     |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a270]
 84352 ms     |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a
270]
 84352 ms     |    |    |    |    |    |    | -[NSXPCConnection auditToken]
 84353 ms     |    | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNe
cessary:0x1 device:0x0 completion:0x16b31a2a0]
 84353 ms     |    |    | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
 84353 ms     |    |    |    | -[AKAnisetteProvisioningService _nativeAnisetteService]
 84353 ms     |    |    |    |    | -[AKNativeAnisetteService initWithClient:0x125e2b90
0]
 84353 ms     |    |    | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNece
ssary:0x1 withCompletion:0x16b31a2a0]
 84353 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
 84353 ms     | +[AKURLBag bagForAltDSID:0x0]
 84353 ms     |    | +[AKURLBag sharedBag]
 84353 ms     | -[AKURLBag lastKnownIDMSEnvironment]
 84353 ms     |    | +[AKConfiguration sharedConfiguration]
 84353 ms     |    | -[AKConfiguration lastKnownIDMSEnvironment]
 84353 ms     |    |    | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
 84353 ms     | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
 84353 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xfffff
fffffffffffe withError:0x16b31a8a8]
 84353 ms     | +[AKADIProxy getIDMSRoutingInfo:0x16b31a838 forDSID:0xfffffffffffffffe]
 84355 ms     | -[AKNativeAnisetteService _unsafe_anisetteDataForDSID:0xfffffffffffffff
e withError:0x16b31a8a8]
 84355 ms     |    | +[AKADIProxy requestOTPForDSID:0xfffffffffffffffe outMID:0x16b31a7
e8 outMIDSize:0x16b31a7dc outOTP:0x16b31a7e0 outOTPSize:0x16b31a7d8]
 84355 ms     |    | +[AKADIProxy dispose:0x125e325e0]
 84355 ms     |    | +[AKADIProxy dispose:0x125e2b940]
 84355 ms     |    | -[AKAnisetteData setMachineID:0x125e2bf20]
```

```
 84355 ms     |    | -[AKAnisetteData setOneTimePassword:0x125e2c070]
 84355 ms     | -[AKAnisetteData setRoutingInfo:0x3050500]
 84355 ms  -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
 84355 ms  -[NSXPCCoder init]
 84355 ms  -[AKAnisetteData encodeWithCoder:0x127819800]
 84355 ms  -[NSXPCCoder dealloc]
 84355 ms  -[AKAnisetteData .cxx_destruct]
 84390 ms  -[AKURLSession URLSession:0x125e16f80 didReceiveChallenge:0x12694ab10 comple
tionHandler:0x16b31a698]
 84390 ms     | +[AKCertificatePinning isValidCertificateTrust:0x126949850 forHostname:
0x12694a840]
 84687 ms  -[NSXPCConnection invalidationHandler]
 84687 ms  -[NSXPCConnection _additionalInvalidationHandler]
 84688 ms  -[NSXPCConnection setInvalidationHandler:0x0]
 84688 ms  -[NSXPCConnection setInterruptionHandler:0x0]
 84688 ms  -[NSXPCConnection setExportedObject:0x0]
 84688 ms     | -[AKAnisetteProvisioningService .cxx_destruct]
 84688 ms     |    | -[AKNativeAnisetteService .cxx_destruct]
 84689 ms     |    | -[AKClient .cxx_destruct]
           /* TID 0x9e33 */
 84689 ms  -[NSXPCListener serviceName]
 84689 ms  -[NSXPCConnection init]
 84689 ms  -[NSXPCListener delegate]
 84689 ms  -[NSXPCListener delegate]
 84689 ms  -[AKDaemonConnectionManager listener:0x126907500 shouldAcceptNewConnection:0
x126a04b30]
 84689 ms     | -[AKClient initWithConnection:0x126a04b30]
 84689 ms     | -[AKDaemonConnectionManager shouldAllowClient:0x126a10290 logging:0x16b
432598]
 84689 ms     |    | -[AKClient hasWriteAccess]
 84689 ms     |    |    | -[AKClient _boolValueForEntitlement:0x10503a2b0]
 84689 ms     |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a2b0]
 84689 ms     |    |    |    |    | -[NSXPCConnection auditToken]
 84690 ms     |    | -[AKClient description]
 84690 ms     |    |    | -[AKClient name]
 84690 ms     |    |    |    | -[NSXPCConnection processIdentifier]
 84690 ms     |    |    | -[NSXPCConnection processIdentifier]
 84690 ms     | -[AKAnisetteProvisioningService initWithClient:0x126a10290]
 84690 ms     |    | +[AKAbsintheSigner sharedSigner]
 84690 ms     |    | +[AKAttestationSigner sharedSigner]
 84690 ms     | -[NSXPCConnection setExportedObject:0x126a05f60]
 84690 ms     | +[AKAnisetteProvisioningDaemonInterface XPCInterface]
 84690 ms     | -[NSXPCConnection setExportedInterface:0x125d16640]
 84690 ms     | +[AKAnisetteProvisioningClientInterface XPCInterface]
 84690 ms     | -[NSXPCConnection setRemoteObjectInterface:0x125d16a50]
 84690 ms     | -[NSXPCConnection resume]
 84691 ms  -[NSXPCConnection _decodeAndInvokeMessageWithEvent:0x126a0c780 flags:0x21]
 84691 ms     | -[NSXPCCoder init]
 84691 ms     | -[NSXPCInterface _selectorIsAllowed:0x19d37a17a isReply:0x0 methodSigna
ture:0x16b4320d0 allowedClasses:0x16b4320d8]
 84691 ms     | -[NSXPCCoder dealloc]
 84691 ms     | -[NSXPCInterface _methodSignatureForReplyBlockOfSelector:0x19d37a17a]
 84691 ms     | -[AKAnisetteProvisioningService fetchAnisetteDataAndProvisionIfNecessar
y:0x1 device:0x0 completion:0x16b4322a0]
 84691 ms     |    | -[AKClient hasInternalPrivateAccess]
 84691 ms     |    |    | -[AKClient hasInternalPrivateEntitlementAccess]
```

```
 84691 ms     |    |    |    | -[AKClient hasInternalAccess]
 84691 ms     |    |    |    |    | -[AKClient hasOwnerAccess]
 84691 ms     |    |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a29
0]
 84691 ms     |    |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x1
0503a290]
 84691 ms     |    |    |    |    |    |    |    | -[NSXPCConnection auditToken]
           /* TID 0x2767 */
 84691 ms  -[NSXPCConnection dealloc]
           /* TID 0x9e33 */
 84692 ms     |    |    |    |    | -[AKClient _boolValueForEntitlement:0x10503a270]
 84692 ms     |    |    |    |    |    | -[NSXPCConnection valueForEntitlement:0x10503a
270]
 84692 ms     |    |    |    |    |    |    | -[NSXPCConnection auditToken]
 84692 ms     |    | -[AKAnisetteProvisioningService _fetchAnisetteDataAndProvisionIfNe
cessary:0x1 device:0x0 completion:0x16b4322a0]
 84692 ms     |    |    | -[AKAnisetteProvisioningService _helperServiceForDevice:0x0]
 84692 ms     |    |    |    | -[AKAnisetteProvisioningService _nativeAnisetteService]
 84692 ms     |    |    |    |    | -[AKNativeAnisetteService initWithClient:0x126a1029
0]
 84692 ms     |    |    | -[AKNativeAnisetteService fetchAnisetteDataAndProvisionIfNece
ssary:0x1 withCompletion:0x16b4322a0]
 84692 ms  +[AKNativeAnisetteService lastKnownActiveAnisetteDSID]
 84692 ms     | +[AKURLBag bagForAltDSID:0x0]
 84692 ms     |    | +[AKURLBag sharedBag]
 84692 ms     | -[AKURLBag lastKnownIDMSEnvironment]
 84692 ms     |    | +[AKConfiguration sharedConfiguration]
 84692 ms     |    | -[AKConfiguration lastKnownIDMSEnvironment]
 84692 ms     |    |    | -[AKConfiguration configurationValueForKey:0x1ea6f0118]
 84692 ms     | +[AKNativeAnisetteService activeAnisetteDSIDWithEnvironment:0x0]
 84692 ms  -[AKNativeAnisetteService _unsafe_anisetteDataWithRoutingInfoForDSID:0xfffff
fffffffffffe withError:0x16b4328a8]
 84692 ms     | +[AKADIProxy getIDMSRoutingInfo:0x16b432838 forDSID:0xfffffffffffffffe]
 84693 ms     | -[AKNativeAnisetteService _unsafe_anisetteDataForDSID:0xfffffffffffffff
e withError:0x16b4328a8]
 84693 ms     |    | +[AKADIProxy requestOTPForDSID:0xfffffffffffffffe outMID:0x16b4327
e8 outMIDSize:0x16b4327dc outOTP:0x16b4327e0 outOTPSize:0x16b4327d8]
 84693 ms     |    | +[AKADIProxy dispose:0x126a29160]
 84693 ms     |    | +[AKADIProxy dispose:0x126a2aa70]
 84693 ms     |    | -[AKAnisetteData setMachineID:0x126a0c7d0]
 84693 ms     |    | -[AKAnisetteData setOneTimePassword:0x126a0c830]
 84693 ms     | -[AKAnisetteData setRoutingInfo:0x3050500]
 84693 ms  -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d37a17a reply:0x1]
 84693 ms  -[NSXPCCoder init]
 84693 ms  -[AKAnisetteData encodeWithCoder:0x128811000]
 84693 ms  -[NSXPCCoder dealloc]
 84693 ms  -[AKAnisetteData .cxx_destruct]
 84866 ms  -[AKURLSession URLSession:0x125e16f80 dataTask:0x126a23790 didReceiveData:0x
125d86ce0]
 84866 ms     | -[AKURLDataTask receivedData]
 84867 ms     | -[AKURLDataTask setReceivedData:0x125d87560]
           /* TID 0x2767 */
 84868 ms  -[AKURLSession URLSession:0x125e16f80 task:0x126a23790 didCompleteWithError:
0x0]
 84868 ms     | -[AKURLSession _unsafe_completeTask:0x126b043e0 withError:0x0]
 84868 ms     |    | -[AKURLDataTask underlyingTask]
```

```
 84868 ms     |    | -[AKURLDataTask _completeWithError:0x0]
 84868 ms     |    |    | -[AKURLDataTask setCanceledOrCompleted:0x1]
 84868 ms     |    |    | -[AKURLDataTask receivedData]
 84869 ms  -[AKURLDataTask description]
 84869 ms  -[AKGrandSlamRequestProvider validateResponseData:0x125d87560 error:0x16b31a
de8]
 84869 ms     | -[AKURLRequestProviderImpl validateResponseData:0x125d87560 error:0x16b
31ade8]
 84869 ms     |    | -[AKURLRequestProviderImpl _validateDataExists:0x125d87560]
 84869 ms     |    | -[AKURLRequestProviderImpl _validateResponseBodyFormat]
 84869 ms     |    |    | -[AKGrandSlamRequestProvider expectedResponseType]
 84870 ms     |    | -[AKURLRequestProviderImpl _validateErrorCode:0x9b85aafdd9ffd30d w
ithKey:0x1ea6eeb58]
 84870 ms  -[AKAppleIDAuthenticationContext username]
 84870 ms  -[AKAppleIDAuthenticationService _correlateContext:0x126a0bf00 withAuthMode:
0x1]
 84870 ms     | -[AKAppleIDAuthenticationContext setAuthenticationMode:0x1]
 84870 ms     | -[AKAppleIDAuthenticationContext authenticationType]
 84870 ms  -[AKAppleIDAuthenticationContext username]
 84870 ms  -[AKAppleIDAuthenticationContext authenticationType]
 84870 ms  -[AKAuthenticationUILiaison presentBasicLoginUIForContext:0x126a0bf00 client
:0x1269481d0 completion:0x16b31ab40]
 84871 ms     | +[AKCAAuthPromptReporter reportPromptByClient:0x1269481d0 withContext:0
x126a0bf00]
 84871 ms     |    | -[AKAppleIDAuthenticationContext isFirstTimeLogin]
 84871 ms     | +[AKAutoBugCapture shouldCapturePromptBugForContext:0x126a0bf00]
 84871 ms     |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 84871 ms     | -[AKAuthenticationUILiaison _performBlockWithClient:0x1269481d0 context
:0x126a0bf00 requireFullUICapability:0x0 allowRedirectToSettings:0x1 block:0x16b31aac0]
 84871 ms     |    | -[AKAppleIDAuthenticationContext _capabilityForUIDisplay]
 84871 ms     |    | -[AKAppleIDAuthenticationContext _performUIOutOfProcess]
 84872 ms     |    | -[AKAppleIDAuthenticationContext _performUIOutOfProcess]
 84872 ms  -[AKURLDataTask .cxx_destruct]
 84872 ms     | -[AKAppleIDSession .cxx_destruct]
           /* TID 0x4a03 */
 84872 ms  -[AKClient proxyWithErrorHandler:0x16b4beda0]
 84872 ms     | -[NSXPCConnection remoteObjectProxyWithErrorHandler:0x16b4beda0]
 84872 ms     |    | -[NSXPCConnection _remoteObjectInterfaceClass]
 84872 ms     |    |    | -[NSXPCInterface _customSubclass]
 84873 ms  -[NSXPCConnection _sendSelector:0x19d20bd88 withProxy:0x12688ae80 arg1:0x126
a0bf00 arg2:0x16b4bed70]
 84873 ms     | -[NSXPCInterface _methodSignatureForRemoteSelector:0x19d20bd88]
 84873 ms     | -[NSXPCConnection _sendInvocation:0x0 orArguments:0x16b4bece8 count:0x2
 methodSignature:0x9d85aafdd9ff885f selector:0x19d20bd88 withProxy:0x12688ae80]
 84873 ms     |    | -[NSXPCInterface _interfaceForArgument:0x0 ofSelector:0x19d20bd88
reply:0x0]
 84873 ms     |    | -[NSXPCCoder init]
           /* TID 0x2767 */
 84873 ms     |    | -[AKAnisetteProvisioningController dealloc]
 84874 ms     |    |    | -[NSXPCConnection invalidate]
           /* TID 0x4a03 */
 84874 ms     |    | -[AKAppleIDAuthenticationContext encodeWithCoder:0x12701d000]
           /* TID 0x2767 */
 84874 ms     |    |    | -[AKAnisetteProvisioningController .cxx_destruct]
           /* TID 0x2ee7 */
 84874 ms  -[NSXPCConnection invalidationHandler]
```

```
  84874 ms  -[NSXPCConnection _additionalInvalidationHandler]
  84874 ms  -[NSXPCConnection setInvalidationHandler:0x0]
            /* TID 0x9e33 */
  84874 ms  -[NSXPCConnection invalidationHandler]
            /* TID 0x2ee7 */
  84875 ms  -[NSXPCConnection setInterruptionHandler:0x0]
            /* TID 0x9e33 */
  84875 ms  -[NSXPCConnection _additionalInvalidationHandler]
            /* TID 0x4a03 */
  84875 ms     |    | -[NSXPCCoder dealloc]
            /* TID 0x9e33 */
  84875 ms  -[NSXPCConnection setInvalidationHandler:0x0]
  84876 ms  -[NSXPCConnection setInterruptionHandler:0x0]
  84876 ms  -[NSXPCConnection setExportedObject:0x0]
            /* TID 0x4a03 */
  84876 ms     |    | -[NSXPCInterface _hasProxiesInReplyBlockArgumentsOfSelector:0x19d2
0bd88]
            /* TID 0x2767 */
  84876 ms  -[AKServiceControllerImpl .cxx_destruct]
  84876 ms     | -[AKURLRequestProviderImpl .cxx_destruct]
            /* TID 0x9e33 */
  84876 ms  -[NSXPCConnection dealloc]
            /* TID 0x2ee7 */
  84877 ms  -[NSXPCConnection setExportedObject:0x0]
  84877 ms     | -[AKAnisetteProvisioningService .cxx_destruct]
  84877 ms     |    | -[AKNativeAnisetteService .cxx_destruct]
  84877 ms     |    | -[AKClient .cxx_destruct]
  84877 ms  -[NSXPCConnection dealloc]
            /* TID 0x4a03 */
  84959 ms  -[NSXPCConnection invalidationHandler]
  84959 ms  -[NSXPCConnection _additionalInvalidationHandler]
  84959 ms  -[NSXPCConnection setInvalidationHandler:0x0]
  84959 ms  -[NSXPCConnection setInterruptionHandler:0x0]
  84959 ms  -[NSXPCConnection setExportedObject:0x0]
  84959 ms     | -[AKAnisetteProvisioningService .cxx_destruct]
  84959 ms     |    | -[AKNativeAnisetteService .cxx_destruct]
  84959 ms     |    | -[AKClient .cxx_destruct]
  84959 ms  -[NSXPCConnection dealloc]
 114739 ms  -[NSXPCConnection invalidate]
            /* TID 0x9e33 */
 114740 ms  -[NSXPCConnection invalidationHandler]
 114740 ms  -[NSXPCConnection _additionalInvalidationHandler]
 114740 ms  -[NSXPCConnection setInvalidationHandler:0x0]
 114740 ms  -[NSXPCConnection setInterruptionHandler:0x0]
 114740 ms  -[NSXPCConnection setExportedObject:0x0]
 114740 ms  -[NSXPCInterface dealloc]
 114740 ms  -[ACTrackedXPCConnection dealloc]
 114740 ms     | -[NSXPCConnection dealloc]
```

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Preferences中Apple账号登录全过程

用 `frida-trace` 追踪 `Preferences` 中

用 `frida-trace` 去追踪， `Preferences` =包名 `com.apple.Preferences` 中的：

- Apple账号登录的完整过程
  - 第一步：输入账号，点击下一步=账号验证过程
  - 第二步：输入密码，点击下一步=账号登录过程

中的函数调用：

frida命令

```
frida-trace -U -F com.apple.Preferences -O Preferences_accoutLogin_hook.txt
```

- Option文件 `Preferences_accoutLogin_hook.txt` 的内容

```
-m "*[AA* *]"
-m "*[AK* *]"
-m "*[AMS* *]"
-m "*[AS* *]"
-m "*[AC* *]"
-m "*[NSError *]"
-M "-[* classForCoder]"
-M "-[* classForKeyedArchiver]"
-M "-[AAUISignInViewController numberOfSectionsInTableView:]"
-M "-[AAUISignInViewController tableView*]"
-M "-[NSPath* *]"
-M "-[* copyWithZone:]"
-M "-[*NSCFString *]"
-M "-[*NSCFError *]"
-M "-[* *ayoutSubviews]"
-M "-[* intrinsicContentSize]"
-M "-[* viewForLastBaselineLayout]"
-M "-[* contentLayoutGuide]"
-M "-[* _updateStyleIfNeeded]"
-M "-[* _updateStackViewSpacing]"
-M "-[* _updateLabelFonts]"
-M "-[AAUILabel *]"
-M "-[AAUIBuddyView *]"
-M "-[AAUIHeaderView *]"
-M "-[* .cxx_destruct]"
-M "-[* dealloc]"
-M "-[* supportsSecureCoding]"
-M "-[* initWithCoder:]"
-M "-[ACAccountStore _clearAccountCaches]"
```

输出

```
...
-[NSURLError encodeWithCoder:]: Loaded handler at "/Users/crifan/dev/dev_root/iosRevers
e/AppleStore/Preferences_app/dynamicDebug/frida/frida-trace/__handlers__/NSURLError/enc
odeWithCoder_.js"
Started tracing 23636 functions. Press Ctrl+C to stop.
           /* TID 0x103 */
 15708 ms  -[AAUISignInController initWithNibName:0x0 bundle:0x0]
 15709 ms     | -[AAUISignInController _commonInit]
 15709 ms     |    | -[AAUISignInController setCanEditUsername:0x1]
 15716 ms  -[AAUISignInController viewDidLoad]
 15716 ms     | -[AAUISignInController _signInViewController]
 15716 ms     |    | +[AAPersonaUtility verifyAndFixPersonaIfNeeded:0x28073b880 desired
Context:0x281024ae0]
 15716 ms     |    | -[AAUISignInViewController initWithNibName:0x0 bundle:0x0]
 15716 ms     |    | -[AAUISignInController serviceType]
 15716 ms     |    | -[AAUISignInViewController _setAkServiceType:0x0]
 15716 ms     |    | -[AAUISignInViewController setUsername:0x0]
 15716 ms     |    | -[AAUISignInController privacyLinkIdentifiers]
 15716 ms     |    | -[AAUISignInViewController setPrivacyLinkIdentifiers:0x281024fa0]
 15716 ms     |    | -[AAUISignInController serviceType]
 15716 ms     |    | -[AAUISignInController _allowsAccountCreationForService:0x0]
 15716 ms     |    | -[AAUISignInViewController setAllowsAccountCreation:0x1]
 15716 ms     |    | -[AAUISignInViewController setDelegate:0x103812200]
 15717 ms     |    | -[AAUISignInController serviceType]
 15717 ms     |    | -[AAUISignInController _showsServiceIconsForService:0x0]
 15717 ms     |    | -[AAUISignInViewController setShowServiceIcons:0x1]
 15717 ms     |    | -[AAUISignInViewController messageLabel]
 15717 ms     |    |    | -[AAUISignInViewController _accountsHeaderView]
 15717 ms     |    |    |    | -[AAUISignInViewController authenticationContext]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext init]
 15717 ms     |    |    |    |    |    | -[AKAppleIDAuthenticationContext _initWithIden
tifier:0x281321340]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext description]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext setAuthenticationT
ype:0x2]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext setFirstTimeLogin:
0x1]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationInAppContext setPresenting
ViewController:0x10400ce10]
 15717 ms     |    |    |    |    | -[AAUISignInViewController _akServiceType]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext setServiceType:0x0
]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext setShouldOfferSecu
rityUpgrade:0x0]
 15717 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext setShouldUpdatePer
sistentServiceTokens:0x1]
 15717 ms     |    |    |    |    | -[AAUISignInViewController _shouldAnticipatePiggyba
cking]
 15717 ms     |    |    |    | +[AAUIHeaderView requiresConstraintBasedLayout]
 15718 ms     |    |    |    | -[AKAppleIDAuthenticationContext title]
 15719 ms     |    |    |    | -[AKAppleIDAuthenticationContext reason]
 15719 ms     |    | -[AAUISignInController serviceType]
 15719 ms     |    | -[AAUISignInController _messageStringForService:0x0]
 15719 ms     |    | -[AAUISignInController _isAuthenticatingPrimary:0x1ecb2df10]
 15719 ms     |    |    | -[AAUISignInController serviceType]
 15719 ms     |    |    | -[AAUISignInController _serviceOwnersManager]
```

```
 15719 ms     |    |    |    | -[ACAccountStore init]
 15719 ms     |    |    |    |    | -[ACAccountStore initWithRemoteEndpoint:0x0 effecti
veBundleID:0x0]
 15719 ms     |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
 15719 ms     |    |    |    |    |    |    | -[ACTimedExpirer init]
 15719 ms     |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
 15719 ms     |    |    |    |    |    |    | -[ACTimedExpirer init]
 15719 ms     |    |    |    |    |    | +[ACNotificationRebroadcaster sharedRebroadcas
ter]
 15720 ms     |    |    | +[AACloudServiceOwner supportedServices]
 15720 ms     |    |    |    | +[AACloudServiceOwner _serviceTypeForPlatform]
 15720 ms     |    |    | -[AACloudServiceOwner initWithAccountStore:0x2839291f0]
 15720 ms     |    |    | -[AACloudServiceOwner accountForService:0x1ecb2df10]
 15720 ms     |    |    |    | +[AACloudServiceOwner _serviceTypeForPlatform]
 15720 ms     |    |    |    | -[ACAccountStore aa_primaryAppleAccount]
 15720 ms     |    |    |    |    | -[ACAccountStore accountsWithAccountTypeIdentifiers
:0x2810252f0 preloadedProperties:0x0 error:0x0]
 15720 ms     |    |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
 15720 ms     |    |    |    |    |    |    | -[ACAccountStore connectionDelegate]
 15720 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession initWithLis
tenerEndpoint:0x0 delegate:0x0]
 15720 ms     |    |    |    |    |    |    |    | -[ACAccountStoreClientSideListener i
nitWithDelegate:0x0]
 15720 ms     |    |    |    |    |    |    | -[ACAccountStore effectiveBundleID]
 15720 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession setEffectiv
eBundleID:0x0]
 15720 ms     |    |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16f
d69750]
 15720 ms     |    |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
 15720 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemot
eObjectProxyWithErrorHandler:0x16fd69730]
 15720 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection
]
 15720 ms     |    |    |    |    |    |    |    | -[ACTrackedXPCConnection init]
 15720 ms     |    |    |    |    |    |    |    | +[ACRemoteAccountStoreInterface XPCI
nterface]
 15721 ms     |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _locke
d_configureRemoteAccountStoreWithConnection:0x28233c1e0]
 15729 ms     |    | -[AAUISignInViewController _setShouldAnticipatePiggybacking:0x1]
 15729 ms     |    | -[AAUISignInViewController _setAkServiceType:0x1]
 15740 ms  -[AAUISignInViewController loadView]
 15740 ms     | +[AAUIBuddyView requiresConstraintBasedLayout]
 15741 ms  -[AAUISignInViewController viewDidLoad]
 15741 ms     | -[AAUISignInViewController authenticationContext]
 15741 ms     |    | -[AKAppleIDAuthenticationContext init]
 15741 ms     |    |    | -[AKAppleIDAuthenticationContext _initWithIdentifier:0x281644
c40]
 15741 ms     |    | -[AKAppleIDAuthenticationContext description]
 15741 ms     |    | -[AKAppleIDAuthenticationContext setAuthenticationType:0x2]
 15741 ms     |    | -[AKAppleIDAuthenticationContext setFirstTimeLogin:0x1]
 15741 ms     |    | -[AKAppleIDAuthenticationInAppContext setPresentingViewController:
0x10400ce10]
 15741 ms     |    | -[AAUISignInViewController _akServiceType]
 15741 ms     |    | -[AKAppleIDAuthenticationContext setServiceType:0x1]
 15741 ms     |    | -[AKAppleIDAuthenticationContext setShouldOfferSecurityUpgrade:0x0
]
```

```
 15741 ms     |    | -[AKAppleIDAuthenticationContext setShouldUpdatePersistentServiceT
okens:0x1]
 15741 ms     |    | -[AAUISignInViewController _shouldAnticipatePiggybacking]
 15741 ms     |    | -[AKAppleIDAuthenticationContext setAnticipateEscrowAttempt:0x1]
 15741 ms     |    | -[AKAppleIDAuthenticationContext setShouldOfferSecurityUpgrade:0x1
]
 15741 ms     |    | -[AKAppleIDAuthenticationContext setSupportsPiggybacking:0x1]
 15741 ms     | -[AKAppleIDAuthenticationContext proxiedDevice]
 15741 ms     | -[AAUISignInViewController _cancelBarButtonItem]
 15742 ms     | -[AAUISignInViewController _nextBarButtonItem]
 15742 ms     | -[AAUISignInViewController _tableView]
 15743 ms     | -[AAUISignInViewController _updateConstraintsForTraitCollection:0x282b1
aa00]
 15744 ms  -[AAUISignInViewController viewWillAppear:0x1]
 15744 ms     | -[AAUISignInViewController _beginObservingTextFieldDidChangeNotificatio
ns]
 15744 ms     | -[AAUISignInViewController _beginObservingKeyboardWillShowNotifications
]
 15744 ms     | -[AAUISignInViewController _beginObservingSizeCategoryNotification]
 15744 ms     | -[AAUISignInViewController _setEnabled:0x1]
 15744 ms     |    | -[AAUISignInViewController _hasValidCredentials]
 15744 ms     |    | -[AAUISignInViewController _setUsernameCellWaiting:0x0]
 15744 ms     | +[AAUISignInViewController phoneNumberSupportedWithCompletion:0x16fd67e
d8]
           /* TID 0x1503 */
 15744 ms  +[AKURLBag sharedBag]
 15744 ms  -[AKURLBag isPhoneNumberSupportedConfig]
 15744 ms     | -[AKURLBag configurationAtKey:0x1e8b198f8]
 15744 ms     |    | -[AKURLBag configurationAtKey:0x1e8b198f8 fromCache:0x0]
 15744 ms     |    |    | -[AKURLBag _configurationsFromCache:0x0 withError:0x0]
 15744 ms     |    |    |    | -[AKURLBag _urlBagFromCache:0x0 withError:0x0]
 15744 ms     |    |    |    |    | -[AKURLBag bagProvider]
 15744 ms     |    |    |    |    | -[AKAppleIDAuthenticationController init]
 15744 ms     |    |    |    |    |    | -[AKAppleIDAuthenticationController initWithId
entifier:0x0 daemonXPCEndpoint:0x0]
 15744 ms     |    |    |    |    |    |    | -[AKAppleIDAuthenticationContextManager i
nitWithAuthenticationController:0x280781f40]
 15744 ms     |    |    |    |    | -[AKURLBag altDSID]
 15744 ms     |    |    |    |    | -[AKAppleIDAuthenticationController _urlBagFromCach
e:0x0 altDSID:0x0 withError:0x0]
 15744 ms     |    |    |    |    |    | -[AKAppleIDAuthenticationController _authentic
ationServiceConnection]
 15744 ms     |    |    |    |    |    |    | +[AKAppleIDAuthenticationDaemonInterface
XPCInterface]
 15744 ms     |    |    |    |    |    |    | +[AKAppleIDAuthenticationClientInterface
XPCInterface]
           /* TID 0x103 */
 15752 ms  -[AAUISignInViewController traitCollectionDidChange:0x282b29ce0]
 15752 ms  -[AAUISignInViewController _updateContentInsetWithHeight:0x282b69260]
 15752 ms  -[AAUISignInViewController _showOnlyPassword]
 15752 ms  -[AAUISignInViewController _usernameCell]
 15756 ms  -[AAUISignInViewController _tableHeaderView]
 15756 ms     | -[AAUISignInViewController _accountsHeaderView]
 15757 ms     |    | -[AAUISignInViewController authenticationContext]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext init]
 15757 ms     |    |    |    | -[AKAppleIDAuthenticationContext _initWithIdentifier:0x2
```

```
816436c0]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext description]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setAuthenticationType:0x2]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setFirstTimeLogin:0x1]
 15757 ms     |    |    | -[AKAppleIDAuthenticationInAppContext setPresentingViewContro
ller:0x10400ce10]
 15757 ms     |    |    | -[AAUISignInViewController _akServiceType]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setServiceType:0x1]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setShouldOfferSecurityUpgrad
e:0x0]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setShouldUpdatePersistentSer
viceTokens:0x1]
 15757 ms     |    |    | -[AAUISignInViewController _shouldAnticipatePiggybacking]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setAnticipateEscrowAttempt:0
x1]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setShouldOfferSecurityUpgrad
e:0x1]
 15757 ms     |    |    | -[AKAppleIDAuthenticationContext setSupportsPiggybacking:0x1]
 15757 ms     | -[AAUISignInViewController constrainView:0x10400d440 toFillHeaderFooter
View:0x1006a4610]
 15760 ms  -[AAUISignInViewController _tableFooterView]
 15760 ms     | +[AAUIBuddyView requiresConstraintBasedLayout]
 15760 ms     | -[AAUISignInViewController allowsAccountCreation]
 15760 ms     | -[AAUIServiceIconView initWithFrame:0x0]
 15760 ms     |    | +[AAUIServiceIconView iconNames]
 15761 ms     | -[AAUISignInViewController showServiceIcons]
 15761 ms     | -[AAUITextView initWithFrame:0x0]
 15763 ms     |    | -[AAUITextView _commonInit]
 15763 ms     | -[AAUISignInViewController _stringForFooter]
 15763 ms     |    | -[AAUISignInViewController _isGreenTeaCapable]
 15765 ms     | -[AAUISignInViewController privacyLinkIdentifiers]
 15765 ms     | -[AAUISignInViewController privacyLinkIdentifiers]
 15765 ms     | -[AAUISignInViewController privacyLinkIdentifiers]
 15772 ms     | -[AAUISignInViewController constrainView:0x100688290 toFillHeaderFooter
View:0x1006e63b0]
 15779 ms  -[AAUIServiceIconView didMoveToWindow]
 15800 ms  -[AAUISignInViewController _usernameCell]
 16302 ms  -[AAUISignInController viewDidAppear:0x1]
           /* TID 0x1507 */
 60710 ms  -[ACTimedExpirer _cancelTimer]
 60710 ms     | -[ACTimedExpirer _unsafeCancelTimer]
 60710 ms  -[ACAccountStoreClientSideListener connectionWasInvalidated]
           /* TID 0x103 */
 91748 ms  +[NSError errorWithDomain:0x1f61f0160 code:0x2 userInfo:0x0]
 91748 ms     | -[NSError initWithDomain:0x1f61f0160 code:0x2 userInfo:0x0]
 91748 ms  +[NSError errorWithDomain:0x1f61f01c0 code:0x104 userInfo:0x28164c600]
 91748 ms     | -[NSError initWithDomain:0x1f61f01c0 code:0x104 userInfo:0x28164c600]
 91789 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 91789 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 91839 ms  -[AAUISignInViewController _keyboardWillShow:0x2816aab40]
 91839 ms     | -[AAUISignInViewController _updateContentInsetWithHeight:0x1f095f050]
 91840 ms  -[AAUISignInViewController _keyboardWillShow:0x2816aab40]
 91841 ms     | -[AAUISignInViewController _updateContentInsetWithHeight:0x1f095f050]
 93554 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x0 replacementString:0x0]
 93554 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
```

```
 93554 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 93563 ms  -[AAUISignInViewController _textFieldDidChange:0x281694e40]
 93563 ms     | -[AAUISignInViewController _hasValidCredentials]
 93897 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x1 replacementString:0x0]
 93897 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 93897 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 93907 ms  -[AAUISignInViewController _textFieldDidChange:0x281658920]
 93908 ms     | -[AAUISignInViewController _hasValidCredentials]
 94231 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x3 replacementString:0x0]
 94231 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 94231 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 94240 ms  -[AAUISignInViewController _textFieldDidChange:0x281658de0]
 94240 ms     | -[AAUISignInViewController _hasValidCredentials]
 94496 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x5 replacementString:0x0]
 94497 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 94497 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 94505 ms  -[AAUISignInViewController _textFieldDidChange:0x281658d20]
 94505 ms     | -[AAUISignInViewController _hasValidCredentials]
 94767 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x6 replacementString:0x0]
 94767 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 94767 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 94778 ms  -[AAUISignInViewController _textFieldDidChange:0x281261de0]
 94778 ms     | -[AAUISignInViewController _hasValidCredentials]
 94827 ms  -[AAUISignInViewController _textFieldDidChange:0x2816b05e0]
 94827 ms     | -[AAUISignInViewController _hasValidCredentials]
 95134 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x0 replacementString:0x5]
 95134 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 95134 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 95137 ms  -[AAUISignInViewController _textFieldDidChange:0x2816a2ca0]
 95137 ms     | -[AAUISignInViewController _hasValidCredentials]
 95140 ms  -[AAUISignInViewController _textFieldDidChange:0x2816a2e00]
 95140 ms     | -[AAUISignInViewController _hasValidCredentials]
 95164 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x5 replacementString:0x0]
 95165 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 95165 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 95169 ms  -[AAUISignInViewController _textFieldDidChange:0x28164ece0]
 95169 ms     | -[AAUISignInViewController _hasValidCredentials]
 95482 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x6 replacementString:0x0]
 95482 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 95482 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 95492 ms  -[AAUISignInViewController _textFieldDidChange:0x281659b60]
 95493 ms     | -[AAUISignInViewController _hasValidCredentials]
 95863 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x7 replacementString:0x0]
 95863 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 95863 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 95876 ms  -[AAUISignInViewController _textFieldDidChange:0x281262a40]
 95876 ms     | -[AAUISignInViewController _hasValidCredentials]
 96164 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
```

```
ge:0x9 replacementString:0x0]
 96164 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 96164 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 96173 ms  -[AAUISignInViewController _textFieldDidChange:0x2816b9480]
 96174 ms     | -[AAUISignInViewController _hasValidCredentials]
 96462 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0xa replacementString:0x0]
 96462 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 96462 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 96470 ms  -[AAUISignInViewController _textFieldDidChange:0x28125c800]
 96470 ms     | -[AAUISignInViewController _hasValidCredentials]
 96812 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0xc replacementString:0x0]
 96813 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 96813 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 96826 ms  -[AAUISignInViewController _textFieldDidChange:0x28165ba80]
 96826 ms     | -[AAUISignInViewController _hasValidCredentials]
 97081 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0xd replacementString:0x0]
 97081 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 97081 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 97091 ms  -[AAUISignInViewController _textFieldDidChange:0x2816bc6c0]
 97091 ms     | -[AAUISignInViewController _hasValidCredentials]
 97352 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0x6 replacementString:0x8]
 97353 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 97353 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 97355 ms  -[AAUISignInViewController _textFieldDidChange:0x2816bd940]
 97355 ms     | -[AAUISignInViewController _hasValidCredentials]
 97358 ms  -[AAUISignInViewController _textFieldDidChange:0x2816beb40]
 97358 ms     | -[AAUISignInViewController _hasValidCredentials]
 97385 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0xc replacementString:0x0]
 97385 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 97385 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 97393 ms  -[AAUISignInViewController _textFieldDidChange:0x281644580]
 97393 ms     | -[AAUISignInViewController _hasValidCredentials]
 97610 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0xd replacementString:0x0]
 97611 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 97611 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 97619 ms  -[AAUISignInViewController _textFieldDidChange:0x2816b2d60]
 97619 ms     | -[AAUISignInViewController _hasValidCredentials]
 97860 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0xe replacementString:0x0]
 97861 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 97861 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 97868 ms  -[AAUISignInViewController _textFieldDidChange:0x2816bb220]
 97869 ms     | -[AAUISignInViewController _hasValidCredentials]
 98077 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
ge:0xf replacementString:0x0]
 98077 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 98077 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 98086 ms  -[AAUISignInViewController _textFieldDidChange:0x2816b2dc0]
 98086 ms     | -[AAUISignInViewController _hasValidCredentials]
 98632 ms  -[AAUISignInViewController textField:0x1020abe00 shouldChangeCharactersInRan
```

```
ge:0xd replacementString:0x4]
 98632 ms     | -[AAUISignInViewController _isPasswordFieldVisible]
 98632 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 98635 ms  -[AAUISignInViewController _textFieldDidChange:0x2816b1f40]
 98635 ms     | -[AAUISignInViewController _hasValidCredentials]
 98638 ms  -[AAUISignInViewController _textFieldDidChange:0x28164bf60]
 98638 ms     | -[AAUISignInViewController _hasValidCredentials]
 99358 ms  -[AAUISignInViewController _nextButtonSelected:0x10067b1a0]
 99358 ms     | -[AAUISignInViewController _attemptAuthentication]
 99359 ms     |    | -[AAUISignInViewController _isPasswordFieldVisible]
 99359 ms     |    |    | -[AAUISignInViewController _showOnlyPassword]
 99359 ms     |    | -[AAUISignInViewController authenticationContext]
 99359 ms     |    |    | -[AKAppleIDAuthenticationContext init]
 99359 ms     |    |    |    | -[AKAppleIDAuthenticationContext _initWithIdentifier:0x2
81647760]
 99359 ms     |    |    | -[AKAppleIDAuthenticationContext description]
 99359 ms     |    |    | -[AKAppleIDAuthenticationContext setAuthenticationType:0x2]
 99359 ms     |    |    | -[AKAppleIDAuthenticationContext setFirstTimeLogin:0x1]
 99360 ms     |    |    | -[AKAppleIDAuthenticationInAppContext setPresentingViewContro
ller:0x10400ce10]
 99360 ms     |    |    | -[AAUISignInViewController _akServiceType]
 99360 ms     |    |    | -[AKAppleIDAuthenticationContext setServiceType:0x1]
 99360 ms     |    |    | -[AKAppleIDAuthenticationContext setShouldOfferSecurityUpgrad
e:0x0]
 99360 ms     |    |    | -[AKAppleIDAuthenticationContext setShouldUpdatePersistentSer
viceTokens:0x1]
 99360 ms     |    |    | -[AAUISignInViewController _shouldAnticipatePiggybacking]
 99360 ms     |    |    | -[AKAppleIDAuthenticationContext setAnticipateEscrowAttempt:0
x1]
 99360 ms     |    |    | -[AKAppleIDAuthenticationContext setShouldOfferSecurityUpgrad
e:0x1]
 99360 ms     |    |    | -[AKAppleIDAuthenticationContext setSupportsPiggybacking:0x1]
 99360 ms     |    | -[AKAppleIDAuthenticationContext setNeedsCredentialRecovery:0x0]
 99360 ms     |    | -[AKAppleIDAuthenticationContext setNeedsNewAppleID:0x0]
 99361 ms     |    | -[AKAppleIDAuthenticationContext setUsername:0x281ce7930]
 99361 ms     |    | -[AKAppleIDAuthenticationContext _setPassword:0x0]
 99361 ms     |    | -[AKAppleIDAuthenticationInAppContext _setPasswordDelegate:0x10400
ce10]
 99361 ms     |    | -[AAUISignInViewController _isRunningInSettings]
 99361 ms     |    | -[AKAppleIDAuthenticationContext setAppProvidedContext:0x1e8b17118
]
 99361 ms     |    | -[AAUISignInViewController _attemptAuthenticationWithContext:0x104
10b850]
 99361 ms     |    |    | -[AAUISignInViewController _setEnabled:0x0]
 99390 ms     |    |    |    | -[AAUISignInViewController _keyboardWillShow:0x28125d800
]
 99390 ms     |    |    |    |    | -[AAUISignInViewController _updateContentInsetWithH
eight:0x1f095f050]
 99392 ms     |    |    |    | -[AAUISignInViewController _keyboardWillHide:0x28125d800
]
 99392 ms     |    |    |    |    | -[AAUISignInViewController _updateContentInsetWithH
eight:0x1f095f050]
 99393 ms     |    |    |    | -[AAUISignInViewController _setUsernameCellWaiting:0x1]
 99394 ms     |    |    |    |    | -[AAUISignInViewController _showOnlyPassword]
 99396 ms     |    |    | -[AAUISignInController willAuthenticateWithContext:0x10410b85
0]
```

```
 99396 ms     |    |    | +[AAPersonaUtility verifyAndFixPersonaIfNeeded:0x2807395c0 de
siredContext:0x281025010]
 99396 ms     |    |    | -[AKAppleIDAuthenticationController init]
 99396 ms     |    |    |    | -[AKAppleIDAuthenticationController initWithIdentifier:0
x0 daemonXPCEndpoint:0x0]
 99396 ms     |    |    |    |    | -[AKAppleIDAuthenticationContextManager initWithAut
henticationController:0x280739600]
 99396 ms     |    |    | -[AKAppleIDAuthenticationController authenticateWithContext:0
x10410b850 completion:0x16fd69010]
 99397 ms     |    |    |    | -[AKAppleIDAuthenticationContext authenticationType]
 99397 ms     |    |    |    | -[AKAppleIDAuthenticationContext _proxiedAppBundleID]
 99397 ms     |    |    |    | -[AKAppleIDAuthenticationContextManager registerContext:
0x10410b850]
 99397 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext _identifier]
 99397 ms     |    |    |    | -[AKAppleIDAuthenticationContext debugDescription]
 99397 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext _shouldSkipInitial
ReachabilityCheck]
           /* TID 0xc533 */
 99397 ms  -[AKAppleIDAuthenticationContext _identifier]
           /* TID 0x103 */
 99397 ms     |    |    |    | -[AKAppleIDAuthenticationController _authenticationServi
ceConnection]
 99397 ms     |    |    |    |    | +[AKAppleIDAuthenticationDaemonInterface XPCInterfa
ce]
 99397 ms     |    |    |    |    | +[AKAppleIDAuthenticationClientInterface XPCInterfa
ce]
 99397 ms     |    |    |    | -[AKAppleIDAuthenticationContext _sanitizedCopy]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext init]
 99398 ms     |    |    |    |    |    | -[AKAppleIDAuthenticationContext _initWithIden
tifier:0x28164e340]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext description]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext _capabilityForUIDi
splay]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext _shouldSkipInitial
ReachabilityCheck]
 99398 ms     |    |    |    | -[AKAppleIDAuthenticationContext isContextEligibleForSil
entAuth]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext authenticationType
]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext shouldPromptForPas
swordOnly]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext isEphemeral]
 99398 ms     |    |    |    |    | -[AKAppleIDAuthenticationContext isUsernameEditable
]
 99398 ms     |    |    |    | -[AKAppleIDAuthenticationContext encodeWithCoder:0x11383
a600]
 99399 ms     |    |    | +[AAPersonaUtility personaConsistencyCheck:0x2807395c0]
 99399 ms     | -[AAUISignInViewController _prewarmSignInFlowIfApplicable]
 99399 ms     |    | -[AAUISignInViewController showServiceIcons]
 99399 ms     |    | -[AASignInFlowController init]
 99399 ms     |    |    | -[ACAccountStore init]
 99399 ms     |    |    |    | -[ACAccountStore initWithRemoteEndpoint:0x0 effectiveBun
dleID:0x0]
 99399 ms     |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
 99399 ms     |    |    |    |    |    | -[ACTimedExpirer init]
 99399 ms     |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
```

```
 99399 ms     |    |    |    |    |    | -[ACTimedExpirer init]
 99399 ms     |    |    |    |    | +[ACNotificationRebroadcaster sharedRebroadcaster]
 99400 ms     |    | -[AASignInFlowController prewarmOperationsWithCompletion:0x0]
 99400 ms     |    |    | +[AARemoteServer sharedServer]
 99400 ms     |    |    |    | -[AARemoteServer init]
 99400 ms     |    |    |    |    | +[AAURLSession sharedSession]
 99400 ms     |    |    |    |    |    | -[AAURLSession _initRequiringSigning:0x0]
 99402 ms     |    |    |    |    |    |    | -[AAURLSessionContext initRequiringSignin
g:0x0]
 99402 ms     |    |    |    |    |    |    |    | -[AKAppleIDSession initWithIdentifie
r:0x28164e980]
 99402 ms     |    |    |    |    |    |    |    | -[AAURLSessionContext _initRequiring
Signing:0x0 appleIDSession:0x2807e81c0]
 99405 ms     |    |    |    |    |    |    | -[AKAppleIDSession initWithIdentifier:0x2
81cc6fa0]
 99405 ms     |    |    |    |    |    |    | -[AAURLSessionContext _initRequiringSigni
ng:0x0 appleIDSession:0x280767d40]
 99405 ms     |    |    |    |    |    |    | -[AKAppleIDSession initWithIdentifier:0x2
81cc6fa0]
 99405 ms     |    |    |    |    |    |    | -[AAURLSessionContext _initRequiringSigni
ng:0x0 appleIDSession:0x280762940]
 99406 ms     |    |    |    |    |    |    | -[AAURLSessionContext relevantHTTPStatusC
odes]
 99406 ms     |    |    |    |    |    |    |    | -[AKAppleIDSession relevantHTTPStatu
sCodes]
 99406 ms     |    |    |    |    |    |    |    | +[AAURLSessionContext _relevantHTTPS
tatusCodes]
 99406 ms     |    |    |    |    | +[AAURLSession sharedSigningSession]
 99406 ms     |    |    |    |    |    | -[AAURLSession _initRequiringSigning:0x1]
 99406 ms     |    |    |    |    |    |    | -[AAURLSessionContext initRequiringSignin
g:0x1]
 99406 ms     |    |    |    |    |    |    |    | -[AKAppleIDSession initWithIdentifie
r:0x28164ed40]
 99406 ms     |    |    |    |    |    |    |    | -[AAURLSessionContext _initRequiring
Signing:0x1 appleIDSession:0x2807e81c0]
 99406 ms     |    |    |    |    |    |    | -[AKAppleIDSession initWithIdentifier:0x2
81cc6e50]
 99406 ms     |    |    |    |    |    |    | -[AAURLSessionContext _initRequiringSigni
ng:0x1 appleIDSession:0x2807e8580]
 99407 ms     |    |    |    |    |    |    | -[AKAppleIDSession initWithIdentifier:0x2
81cc6e50]
 99407 ms     |    |    |    |    |    |    | -[AAURLSessionContext _initRequiringSigni
ng:0x1 appleIDSession:0x2807e8fc0]
 99407 ms     |    |    |    |    |    |    | -[AAURLSessionContext relevantHTTPStatusC
odes]
 99407 ms     |    |    |    |    |    |    |    | -[AKAppleIDSession relevantHTTPStatu
sCodes]
 99407 ms     |    |    |    |    |    |    |    | +[AAURLSessionContext _relevantHTTPS
tatusCodes]
 99407 ms     |    |    | -[AARemoteServer configurationWithCompletion:0x16fd690b8]
 99407 ms     |    |    |    | -[AARemoteServer _configurationAndResponseWithCompletion
:0x16fd69058]
 99407 ms     |    |    |    |    | -[AARemoteServer _configurationCacheInvalidatingIfN
ecessary]
 99407 ms     |    |    |    |    |    | -[AARemoteServer _configurationLock_configurat
ionCacheInvalidatingIfNecessary]
```

```
           /* TID 0xc533 */
 99407 ms  -[AARemoteServer _configurationCacheInvalidatingIfNecessary]
 99407 ms     | -[AARemoteServer _configurationLock_configurationCacheInvalidatingIfNec
essary]
 99407 ms  -[AARemoteServer _fetchConfigurationAndResponseWithCompletion:0x16fe7e890]
           /* TID 0x103 */
 99408 ms  -[ACTimedExpirer _cancelTimer]
 99408 ms     | -[ACTimedExpirer _unsafeCancelTimer]
 99408 ms  -[ACTimedExpirer _cancelTimer]
 99408 ms     | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xf107 */
 99423 ms  +[AKAppleIDAuthenticationContext supportsSecureCoding]
 99423 ms  -[AKAppleIDAuthenticationContextManager presentBasicLoginUIForContext:0x1203
2b360 completion:0x2820ba370]
 99423 ms     | -[AKAppleIDAuthenticationContextManager _clientSideContextForServerCont
ext:0x12032b360]
 99423 ms     |    | -[AKAppleIDAuthenticationContext _identifier]
 99423 ms     |    | -[AKAppleIDAuthenticationContext _identifier]
 99423 ms     |    | -[AKAppleIDAuthenticationContext _updateWithValuesFromContext:0x12
032b360]
 99423 ms     | -[AKAppleIDAuthenticationInAppContext presentBasicLoginUIWithCompletion
:0x2820ba370]
           /* TID 0x103 */
 99423 ms  -[AKAppleIDAuthenticationContext username]
 99423 ms  -[AKAppleIDAuthenticationInAppContext _passwordDelegate]
 99424 ms  -[AKAppleIDAuthenticationContext username]
 99424 ms  -[AKAppleIDAuthenticationInAppContext _passwordDelegate]
 99424 ms  -[AAUISignInViewController context:0x10410b850 needsPasswordWithCompletion:0
x16fd6a950]
 99424 ms     | -[AAUISignInViewController _setPasswordFieldHidden:0x0]
 99424 ms     |    | -[AAUISignInViewController _isPasswordFieldVisible]
 99424 ms     |    |    | -[AAUISignInViewController _showOnlyPassword]
 99424 ms     |    | -[AAUISignInViewController _passwordFieldIndexPath]
 99424 ms     |    | -[AAUISignInViewController _showOnlyPassword]
 99425 ms     |    | -[AAUISignInViewController _passwordFieldIndexPath]
 99425 ms     |    | -[AAUISignInViewController _passwordCell]
 99435 ms     | -[AAUISignInViewController _setEnabled:0x1]
 99435 ms     |    | -[AAUISignInViewController _hasValidCredentials]
 99436 ms     |    | -[AAUISignInViewController _setUsernameCellWaiting:0x0]
           /* TID 0xc533 */
 99454 ms     | -[AAURLSession bodyTaskWithRequest:0x28100b030 completion:0x16fe7e740]
 99454 ms     |    | -[AAURLSession dataTaskWithRequest:0x28100b030 completion:0x16fe7e
6c8]
 99454 ms     |    |    | -[AAURLSession _enqueueRequest:0x28100b030 completion:0x16fe7
e6c8]
 99455 ms     |    |    |    | -[AKAppleIDSession initWithIdentifier:0x281cc6fa0]
 99455 ms     |    |    |    | -[AAURLSessionContext _initRequiringSigning:0x0 appleIDS
ession:0x2807dddc0]
           /* TID 0x10a03 */
 99455 ms  -[AAURLSession _sessionQueue_enqueueTask:0x129612b80 completion:0x281d62b80]
 99469 ms  -[AAURLSession URLSession:0x10401f340 dataTask:0x129612b80 didReceiveData:0x
2807d4a00]
 99469 ms     | -[AAURLSession _sessionQueue_updateTask:0x129612b80 withData:0x2807d4a0
0]
           /* TID 0xc533 */
 99470 ms  -[AAURLSession URLSession:0x10401f340 task:0x129612b80 didCompleteWithError:
```

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0x0]
 99470 ms     | -[AAURLSession _sessionQueue_dequeueTask:0x129612b80 withResponse:0x281
6bae20 error:0x0]
 99470 ms     |    | -[AAURLConfiguration _initWithDictionary:0x2816a15c0]
 99470 ms     |    | +[AARemoteServerConfigurationCache cacheWithConfiguration:0x28100c
250 response:0x2816bae20]
 99470 ms     |    |    | -[AARemoteServerConfigurationCache initWithConfiguration:0x28
100c250 response:0x2816bae20]
 99470 ms     |    | -[AARemoteServer _setConfigurationCache:0x2816bb620]
 99470 ms     |    | -[AAURLConfiguration absintheEnable]
 99470 ms     |    | +[AAAbsintheSigner sharedSigner]
 99470 ms     |    |    | -[AAAbsintheSigner initWithCacheTimeout:0xffffffffffffffc0]
 99470 ms     |    |    |    | +[AAURLSession sharedSession]
 99470 ms     |    | -[AAAbsintheSigner signatureForData:0x281d70f90 completion:0x16fe7
e370]
 99470 ms     |    |    | -[AAAbsintheSigner _contextWithCompletion:0x16fe7e2b0]
 99470 ms     |    |    |    | -[AAAbsintheSigner context]
 99470 ms     |    |    |    |    | -[AAAbsintheSigner _contextLock_contextInvalidating
IfNecessary]
 99470 ms     |    | -[AAURLConfiguration baaInterval]
           /* TID 0x10a03 */
 99470 ms  -[AAAbsintheSigner _contextQueue_contextWithCompletion:0x281d71410]
 99471 ms     | -[AAAbsintheSigner context]
 99471 ms     |    | -[AAAbsintheSigner _contextLock_contextInvalidatingIfNecessary]
 99471 ms     | -[AAAbsintheSigner _fetchCertificateDataWithCompletion:0x1703f6808]
 99471 ms     |    | -[AAURLSession dataTaskWithURL:0x28318bcf0 completion:0x1703f67a8]
 99471 ms     |    |    | -[AAURLSession dataTaskWithRequest:0x28100b070 completion:0x1
703f67a8]
 99471 ms     |    |    |    | -[AAURLSession _enqueueRequest:0x28100b070 completion:0x
1703f67a8]
 99471 ms     |    |    |    |    | -[AKAppleIDSession initWithIdentifier:0x281cc6fa0]
 99471 ms     |    |    |    |    | -[AAURLSessionContext _initRequiringSigning:0x0 app
leIDSession:0x2807ddd80]
           /* TID 0xc533 */
 99471 ms  -[AAURLSession _sessionQueue_enqueueTask:0x1006ee7e0 completion:0x281d62ac0]
           /* TID 0x10a03 */
 99471 ms  +[AAURLProtocol canInitWithRequest:0x281008040]
 99471 ms  +[AAURLProtocol canonicalRequestForRequest:0x281008040]
           /* TID 0x873f */
 99472 ms  -[AAURLProtocol initWithRequest:0x281008010 cachedResponse:0x0 client:0x281d
70960]
 99472 ms  -[AAURLProtocol startLoading]
 99472 ms     | +[AARemoteServer sharedServer]
 99472 ms     | -[AARemoteServer _configurationAndResponseWithCompletion:0x17050da48]
 99472 ms     |    | -[AARemoteServer _configurationCacheInvalidatingIfNecessary]
 99472 ms     |    |    | -[AARemoteServer _configurationLock_configurationCacheInvalid
atingIfNecessary]
 99472 ms     |    |    |    | -[AARemoteServerConfigurationCache creationDate]
 99472 ms     |    | -[AARemoteServerConfigurationCache configuration]
 99472 ms     |    | -[AARemoteServerConfigurationCache response]
 99472 ms     |    | -[AAURLConfiguration urlForEndpoint:0x2816bb260]
 99472 ms  -[AAURLProtocol stopLoading]
           /* TID 0x10a03 */
 99481 ms  -[AAURLSessionContext URLSession:0x10401f340 task:0x1006ee7e0 getAppleIDHead
ersForResponse:0x0 completionHandler:0x1703f6650]
 99481 ms     | -[AKAppleIDSession URLSession:0x10401f340 task:0x120360620 getAppleIDHe
```

```
adersForResponse:0x0 completionHandler:0x1703f65c0]
 99481 ms     |    | -[AKAppleIDSession _generateAppleIDHeadersForSessionTask:0x1203606
20 withCompletion:0x1703f6538]
 99481 ms     |    |    | -[AKAppleIDSession _nativeAnisetteController]
 99481 ms     |    |    |    | -[AKAnisetteProvisioningController init]
 99481 ms     |    |    | -[AKAnisetteProvisioningController anisetteDataForURLRequest:
0x28100c0d0 completion:0x1703f6428]
 99481 ms     |    |    |    | -[AKAnisetteProvisioningController fetchAnisetteDataAndP
rovisionIfNecessary:0x1 withCompletion:0x1703f6428]
 99481 ms     |    |    |    |    | -[AKAnisetteProvisioningController _anisetteService
Connection]
 99481 ms     |    |    |    |    |    | +[AKAnisetteProvisioningDaemonInterface XPCInt
erface]
 99481 ms     |    |    |    |    |    | +[AKAnisetteProvisioningClientInterface XPCInt
erface]
           /* TID 0x6f1f */
 99500 ms  +[AKAnisetteData supportsSecureCoding]
 99500 ms  -[AKAppleIDSession _genericAppleIDHeadersDictionaryForRequest:0x28100c0d0]
 99502 ms     | +[AKDevice currentDevice]
 99502 ms     |    | -[AKDevice init]
 99502 ms     |    |    | -[AKDevice _setShouldUpdateToValue:0x0]
 99502 ms     |    | -[AKDevice description]
 99502 ms     |    | -[AKDevice setLinkType:0x1]
 99502 ms     |    | -[AKDevice _setShouldUpdateToValue:0x1]
 99503 ms     | -[AKDevice locale]
 99503 ms  -[AKAnisetteData machineID]
 99503 ms  -[AKAnisetteData oneTimePassword]
 99503 ms  -[AKAnisetteData routingInfo]
 99503 ms  +[AKDevice currentDevice]
 99503 ms  -[AKDevice localUserUUID]
 99503 ms  +[AKConfiguration sharedConfiguration]
 99503 ms     | -[AKConfiguration init]
 99504 ms  -[AKConfiguration shouldAllowTestApplication]
 99504 ms     | -[AKConfiguration configurationValueForKey:0x1e8b17ff8]
 99504 ms  -[AKAppleIDSession _pairedDeviceAnisetteController]
 99504 ms  -[AAURLSessionContext _additionalHeadersForRequest:0x28100c260 completion:0x
16fdf2270]
 99504 ms     | +[AADeviceInfo currentInfo]
           /* TID 0x1517 */
 99504 ms  +[NSError _web_errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 URL:0x283
ceb000]
 99504 ms     | -[NSError _web_initWithDomain_nowarn:0x1f61f0440 code:0xffffffffffffffc1
9 URL:0x283ceb000]
 99508 ms     |    | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userI
nfo:0x2816bbb20]
 99508 ms  -[NSError userInfo]
 99508 ms  -[NSError domain]
 99508 ms  -[NSError code]
 99508 ms  -[NSError domain]
 99508 ms  -[NSError code]
 99508 ms  -[NSError userInfo]
 99508 ms  -[NSError userInfo]
 99508 ms  -[NSError domain]
 99508 ms  -[NSError code]
 99508 ms  +[NSError errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0x281
6bffa0]
```

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 99508 ms     | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0
x2816bffa0]
 99508 ms  -[NSError code]
 99508 ms  -[NSError code]
 99508 ms  -[NSError description]
 99508 ms     | -[NSError userInfo]
 99508 ms     | -[NSError domain]
 99508 ms     | -[NSError userInfo]
 99508 ms     | -[NSError domain]
 99508 ms     | -[NSError userInfo]
 99508 ms     | -[NSError userInfo]
 99508 ms     | -[NSError domain]
 99508 ms     | -[NSError code]
          /* TID 0x6f1f */
 99511 ms     | +[AADeviceInfo clientInfoHeader]
 99511 ms     |    | -[AADeviceInfo productType]
 99511 ms     |    | -[AADeviceInfo osName]
 99511 ms     |    | +[AADeviceInfo osVersion]
 99511 ms     |    | -[AADeviceInfo buildVersion]
 99513 ms     | +[AAPreferences isExperimentalModeEnabled]
 99513 ms     |    | +[AADeviceInfo isInternalBuild]
 99513 ms     | -[AAURLSessionContext requiresSigning]
          /* TID 0x103 */
 99780 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 99780 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 99780 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 99780 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 99794 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 99794 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
 99797 ms  -[AAUISignInViewController _keyboardWillShow:0x28169c800]
 99797 ms     | -[AAUISignInViewController _updateContentInsetWithHeight:0x1f095f050]
 99797 ms  -[AAUISignInViewController _keyboardWillShow:0x28169c800]
 99797 ms     | -[AAUISignInViewController _updateContentInsetWithHeight:0x1f095f050]
100321 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
100321 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
          /* TID 0x10a03 */
100579 ms  -[AAURLSession URLSession:0x10401f340 dataTask:0x1006ee7e0 didReceiveData:0x
280701280]
100580 ms     | -[AAURLSession _sessionQueue_updateTask:0x1006ee7e0 withData:0x28070128
0]
100581 ms  -[AAURLSession URLSession:0x10401f340 task:0x1006ee7e0 didCompleteWithError:
0x0]
100581 ms     | -[AAURLSession _sessionQueue_dequeueTask:0x1006ee7e0 withResponse:0x281
65acc0 error:0x0]
100581 ms     |    | +[AAAbsintheSigner _contextCreationBlock]
100581 ms     |    | -[AAAbsintheContext init]
100582 ms     |    | -[AAAbsintheContext TgBfoO2wtF5L:0x101068e00 error:0x1703f6518]
100651 ms     |    | -[AAAbsintheSigner _fetchSessionInfoWithRequestInfo:0x28169c3e0 co
mpletion:0x1703f64e8]
100652 ms     |    |    | -[AAURLSession bodyTaskWithRequest:0x28100c480 completion:0x1
703f6468]
100652 ms     |    |    |    | -[AAURLSession dataTaskWithRequest:0x28100c480 completio
n:0x1703f63f8]
100652 ms     |    |    |    |    | -[AAURLSession _enqueueRequest:0x28100c480 completi
on:0x1703f63f8]
100652 ms     |    |    |    |    |    | -[AKAppleIDSession initWithIdentifier:0x281cc6
```

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fa0]
100652 ms     |    |    |    |    |    | -[AAURLSessionContext _initRequiringSigning:0x
0 appleIDSession:0x2807d7340]
100652 ms  -[AAURLSession _sessionQueue_enqueueTask:0x1203690e0 completion:0x281d751d0]
           /* TID 0x6f1f */
100652 ms  +[AAURLProtocol canInitWithRequest:0x281008710]
100652 ms  +[AAURLProtocol canonicalRequestForRequest:0x281008710]
           /* TID 0x873f */
100652 ms  -[AAURLProtocol initWithRequest:0x281009ad0 cachedResponse:0x0 client:0x281d
060d0]
100652 ms  -[AAURLProtocol startLoading]
100652 ms     | +[AARemoteServer sharedServer]
100652 ms     | -[AARemoteServer _configurationAndResponseWithCompletion:0x17050da48]
100652 ms     |    | -[AARemoteServer _configurationCacheInvalidatingIfNecessary]
100652 ms     |    |    | -[AARemoteServer _configurationLock_configurationCacheInvalid
atingIfNecessary]
100652 ms     |    |    |    | -[AARemoteServerConfigurationCache creationDate]
100652 ms     |    | -[AARemoteServerConfigurationCache configuration]
100652 ms     |    | -[AARemoteServerConfigurationCache response]
100652 ms     |    | -[AAURLConfiguration urlForEndpoint:0x281690140]
100652 ms  -[AAURLProtocol stopLoading]
           /* TID 0x1517 */
100653 ms  -[AAURLSessionContext URLSession:0x10401f340 task:0x1203690e0 getAppleIDHead
ersForResponse:0x0 completionHandler:0x170482650]
100653 ms     | -[AKAppleIDSession URLSession:0x10401f340 task:0x129628bd0 getAppleIDHe
adersForResponse:0x0 completionHandler:0x1704825c0]
100653 ms     |    | -[AKAppleIDSession _generateAppleIDHeadersForSessionTask:0x129628b
d0 withCompletion:0x170482538]
100653 ms     |    |    | -[AKAppleIDSession _nativeAnisetteController]
100653 ms     |    |    |    | -[AKAnisetteProvisioningController init]
100653 ms     |    |    | -[AKAnisetteProvisioningController anisetteDataForURLRequest:
0x281008810 completion:0x170482428]
100653 ms     |    |    |    | -[AKAnisetteProvisioningController fetchAnisetteDataAndP
rovisionIfNecessary:0x1 withCompletion:0x170482428]
100653 ms     |    |    |    |    | -[AKAnisetteProvisioningController _anisetteService
Connection]
100653 ms     |    |    |    |    |    | +[AKAnisetteProvisioningDaemonInterface XPCInt
erface]
100653 ms     |    |    |    |    |    | +[AKAnisetteProvisioningClientInterface XPCInt
erface]
           /* TID 0x6f1f */
100657 ms  +[AKAnisetteData supportsSecureCoding]
100657 ms  -[AKAppleIDSession _genericAppleIDHeadersDictionaryForRequest:0x281008810]
100657 ms     | +[AKDevice currentDevice]
100657 ms     | -[AKDevice locale]
100657 ms  -[AKAnisetteData machineID]
100657 ms  -[AKAnisetteData oneTimePassword]
100657 ms  -[AKAnisetteData routingInfo]
100657 ms  +[AKDevice currentDevice]
100657 ms  -[AKDevice localUserUUID]
100657 ms  +[AKConfiguration sharedConfiguration]
100657 ms  -[AKConfiguration shouldAllowTestApplication]
100657 ms     | -[AKConfiguration configurationValueForKey:0x1e8b17ff8]
100657 ms  -[AKAppleIDSession _pairedDeviceAnisetteController]
100657 ms  -[AAURLSessionContext _additionalHeadersForRequest:0x281008640 completion:0x
16fdf2270]
```

```
100657 ms     | -[AAURLSessionContext requiresSigning]
           /* TID 0x1517 */
100657 ms  +[NSError _web_errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 URL:0x283
98c0e0]
100657 ms     | -[NSError _web_initWithDomain_nowarn:0x1f61f0440 code:0xffffffffffffffc1
9 URL:0x28398c0e0]
100657 ms     |    | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userI
nfo:0x28169c340]
100657 ms  -[NSError userInfo]
100658 ms  -[NSError domain]
100658 ms  -[NSError code]
100658 ms  -[NSError domain]
100658 ms  -[NSError code]
100658 ms  -[NSError userInfo]
100658 ms  -[NSError userInfo]
100658 ms  -[NSError domain]
100658 ms  -[NSError code]
100658 ms  +[NSError errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0x281
69c7a0]
100658 ms     | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0
x28169c7a0]
100658 ms  -[NSError code]
100658 ms  -[NSError code]
100658 ms  -[NSError description]
100658 ms     | -[NSError userInfo]
100658 ms     | -[NSError domain]
100658 ms     | -[NSError userInfo]
100658 ms     | -[NSError domain]
100658 ms     | -[NSError userInfo]
100658 ms     | -[NSError userInfo]
100658 ms     | -[NSError domain]
100658 ms     | -[NSError code]
           /* TID 0x103 */
100683 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
100683 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
100684 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
100684 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
           /* TID 0x1517 */
100849 ms  -[AAURLSession URLSession:0x10401f340 dataTask:0x1203690e0 didReceiveData:0x
28073adc0]
100849 ms     | -[AAURLSession _sessionQueue_updateTask:0x1203690e0 withData:0x28073adc
0]
           /* TID 0x6f1f */
100850 ms  -[AAURLSession URLSession:0x10401f340 task:0x1203690e0 didCompleteWithError:
0x0]
100850 ms     | -[AAURLSession _sessionQueue_dequeueTask:0x1203690e0 withResponse:0x281
658520 error:0x0]
100850 ms     |    | -[AAAbsintheContext R6XtwiyjL3q2:0x2816470e0 error:0x16fdf24c8]
100856 ms     |    | -[AAAbsintheSigner setContext:0x281025c00]
100856 ms     |    |    | +[AAAbsintheSignerContextCache cacheWithContext:0x281025c00]
100856 ms     |    |    |    | -[AAAbsintheSignerContextCache initWithContext:0x281025c
00]
100856 ms     |    |    | -[AAAbsintheSigner _contextLock_enqueueContextCleanup]
100856 ms     |    |    |    | -[AAAbsintheSigner cacheTimeout]
100857 ms     |    | -[AAAbsintheContext cao1NI5PNJBn:0x281d70f90 error:0x16fdf23f8]
           /* TID 0x103 */
```

```
101013 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
101013 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
101015 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
101015 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
101609 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x0 replacementString:0x0]
101617 ms  -[AAUISignInViewController _textFieldDidChange:0x2816be1e0]
101617 ms     | -[AAUISignInViewController _hasValidCredentials]
102121 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
102122 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
102124 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
102124 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
102577 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x1 replacementString:0x0]
102588 ms  -[AAUISignInViewController _textFieldDidChange:0x28164f8e0]
102588 ms     | -[AAUISignInViewController _hasValidCredentials]
102924 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
102924 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
102926 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
102926 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
103292 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
103293 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
103294 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
103294 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
103991 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x2 replacementString:0x0]
104004 ms  -[AAUISignInViewController _textFieldDidChange:0x2816b0640]
104004 ms     | -[AAUISignInViewController _hasValidCredentials]
104028 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
104028 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
104030 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
104030 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
104474 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x3 replacementString:0x0]
104488 ms  -[AAUISignInViewController _textFieldDidChange:0x2812fe3e0]
104488 ms     | -[AAUISignInViewController _hasValidCredentials]
104974 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x4 replacementString:0x0]
104988 ms  -[AAUISignInViewController _textFieldDidChange:0x28125e020]
104988 ms     | -[AAUISignInViewController _hasValidCredentials]
105393 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x5 replacementString:0x0]
105406 ms  -[AAUISignInViewController _textFieldDidChange:0x2812638e0]
105406 ms     | -[AAUISignInViewController _hasValidCredentials]
105674 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x6 replacementString:0x0]
105686 ms  -[AAUISignInViewController _textFieldDidChange:0x28165aa40]
105686 ms     | -[AAUISignInViewController _hasValidCredentials]
105907 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x7 replacementString:0x0]
105920 ms  -[AAUISignInViewController _textFieldDidChange:0x28125eb60]
105920 ms     | -[AAUISignInViewController _hasValidCredentials]
106173 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x8 replacementString:0x0]
106186 ms  -[AAUISignInViewController _textFieldDidChange:0x2812631c0]
106186 ms     | -[AAUISignInViewController _hasValidCredentials]
```

```
106490 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0x9 replacementString:0x0]
106504 ms  -[AAUISignInViewController _textFieldDidChange:0x28125e300]
106505 ms     | -[AAUISignInViewController _hasValidCredentials]
106858 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
106858 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
106860 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
106860 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
107456 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0xa replacementString:0x0]
107470 ms  -[AAUISignInViewController _textFieldDidChange:0x2816b2fa0]
107470 ms     | -[AAUISignInViewController _hasValidCredentials]
107773 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
107773 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
107775 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
107775 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
108325 ms  -[AAUISignInViewController textField:0x10186c200 shouldChangeCharactersInRan
ge:0xb replacementString:0x0]
108339 ms  -[AAUISignInViewController _textFieldDidChange:0x2816a8640]
108339 ms     | -[AAUISignInViewController _hasValidCredentials]
109055 ms  -[AAUISignInViewController _nextButtonSelected:0x10067b1a0]
109055 ms     | -[AAUISignInViewController _attemptAuthentication]
109055 ms     |    | -[AAUISignInViewController _setEnabled:0x0]
109078 ms     |    |    | -[AAUISignInViewController _keyboardWillShow:0x2816a8240]
109078 ms     |    |    |    | -[AAUISignInViewController _updateContentInsetWithHeight
:0x1f095f050]
109079 ms     |    |    | -[AAUISignInViewController _keyboardWillHide:0x28169c3e0]
109079 ms     |    |    |    | -[AAUISignInViewController _updateContentInsetWithHeight
:0x1f095f050]
109081 ms     |    |    | -[AAUISignInViewController _setUsernameCellWaiting:0x1]
109081 ms     |    |    |    | -[AAUISignInViewController _showOnlyPassword]
109081 ms     | -[AAUISignInViewController _prewarmSignInFlowIfApplicable]
109081 ms     |    | -[AAUISignInViewController showServiceIcons]
109081 ms     |    | -[AASignInFlowController init]
109081 ms     |    |    | -[ACAccountStore init]
109081 ms     |    |    |    | -[ACAccountStore initWithRemoteEndpoint:0x0 effectiveBun
dleID:0x0]
109081 ms     |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
109081 ms     |    |    |    |    |    | -[ACTimedExpirer init]
109081 ms     |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
109081 ms     |    |    |    |    |    | -[ACTimedExpirer init]
109081 ms     |    |    |    |    | +[ACNotificationRebroadcaster sharedRebroadcaster]
109081 ms     |    | -[AASignInFlowController prewarmOperationsWithCompletion:0x0]
109081 ms     |    |    | +[AARemoteServer sharedServer]
109081 ms     |    |    | -[AARemoteServer configurationWithCompletion:0x16fd690b8]
109081 ms     |    |    |    | -[AARemoteServer _configurationAndResponseWithCompletion
:0x16fd69058]
109081 ms     |    |    |    |    | -[AARemoteServer _configurationCacheInvalidatingIfN
ecessary]
109081 ms     |    |    |    |    |    | -[AARemoteServer _configurationLock_configurat
ionCacheInvalidatingIfNecessary]
109081 ms     |    |    |    |    |    |    | -[AARemoteServerConfigurationCache creati
onDate]
109081 ms     |    |    |    |    | -[AARemoteServerConfigurationCache configuration]
109081 ms     |    |    |    |    | -[AARemoteServerConfigurationCache response]
109081 ms     |    |    |    |    | -[AAURLConfiguration absintheEnable]
```

```
109081 ms     |    |    |    |    | +[AAAbsintheSigner sharedSigner]
109081 ms     |    |    |    |    | -[AAAbsintheSigner signatureForData:0x281d763d0 com
pletion:0x16fd68e80]
109081 ms     |    |    |    |    |    | -[AAAbsintheSigner _contextWithCompletion:0x16
fd68dc0]
109081 ms     |    |    |    |    |    |    | -[AAAbsintheSigner context]
109081 ms     |    |    |    |    |    |    |    | -[AAAbsintheSigner _contextLock_cont
extInvalidatingIfNecessary]
109081 ms     |    |    |    |    |    |    |    |    | -[AAAbsintheSignerContextCache
creationDate]
109082 ms     |    |    |    |    |    |    |    |    | -[AAAbsintheSignerContextCache
context]
109082 ms     |    |    |    |    |    |    | -[AAAbsintheContext cao1NI5PNJBn:0x281d76
3d0 error:0x16fd68d08]
109085 ms     |    |    |    |    | -[AAURLConfiguration baaInterval]
109085 ms  -[ACTimedExpirer _cancelTimer]
109085 ms     | -[ACTimedExpirer _unsafeCancelTimer]
109085 ms  -[ACTimedExpirer _cancelTimer]
109085 ms     | -[ACTimedExpirer _unsafeCancelTimer]
109602 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
109602 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
           /* TID 0x6f1f */
110997 ms  -[AKAppleIDAuthenticationContextManager shouldContinueWithAuthenticationResu
lts:0x2816b3020 error:0x0 forContextID:0x2816b3500 completion:0x283925d50]
110998 ms     | -[AKAppleIDAuthenticationContextManager delegate]
           /* TID 0x103 */
111116 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d75080]
111117 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283c263
00 completion:0x16fd69d98]
111117 ms     | -[ACAccountStore remoteAccountStoreSession]
111117 ms     |    | -[ACAccountStore connectionDelegate]
111117 ms     |    | -[ACRemoteAccountStoreSession initWithListenerEndpoint:0x0 delegat
e:0x0]
111117 ms     |    |    | -[ACAccountStoreClientSideListener initWithDelegate:0x0]
111117 ms     |    | -[ACAccountStore effectiveBundleID]
111117 ms     |    | -[ACRemoteAccountStoreSession setEffectiveBundleID:0x0]
111117 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
111117 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111117 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
111117 ms     |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0x6f1f */
111117 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
           /* TID 0x103 */
111117 ms     |    |    | -[ACTrackedXPCConnection init]
111117 ms     |    |    | +[ACRemoteAccountStoreInterface XPCInterface]
111118 ms     |    |    | -[ACRemoteAccountStoreSession _locked_configureRemoteAccountS
toreWithConnection:0x282340820]
111119 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x281659980]
111119 ms     | +[AMSLogConfig sharedAccountsConfig]
111119 ms     | -[AMSLogConfig OSLogObject]
111119 ms     |    | -[AMSLogConfig propertyAccessQueue]
111119 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0x6f1f */
111119 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
111119 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
```

```
111119 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
111119 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
111119 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
111120 ms     |    |    |    |    |    | -[ACAccountStore connectionDelegate]
111120 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession initWithListener
Endpoint:0x0 delegate:0x0]
111120 ms     |    |    |    |    |    |    | -[ACAccountStoreClientSideListener initWi
thDelegate:0x0]
111120 ms     |    |    |    |    |    | -[ACAccountStore effectiveBundleID]
111120 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession setEffectiveBund
leID:0x0]
           /* TID 0xc533 */
111120 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
111120 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
111120 ms     | -[ACAccountStore aa_primaryAppleAccount]
111120 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x28100d400 pr
eloadedProperties:0x0 error:0x0]
111120 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
           /* TID 0x6f1f */
111121 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fdf24c
0]
111121 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111121 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fdf24a0]
111121 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
111121 ms     |    |    |    |    |    |    | -[ACTrackedXPCConnection init]
           /* TID 0xc533 */
111121 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e410]
111121 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111121 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x16fe7e3f0]
111121 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0x6f1f */
111121 ms     |    |    |    |    |    |    | +[ACRemoteAccountStoreInterface XPCInterf
ace]
111121 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _locked_con
figureRemoteAccountStoreWithConnection:0x282342080]
           /* TID 0xc533 */
111139 ms  +[ACAccountStore ams_sharedAccountStoreForMediaType:0x1e77eaeb0]
111139 ms     | +[AMSUnitTests isRunningUnitTests]
           /* TID 0x6f1f */
111146 ms     |    |    |    |    | +[ACAccountType supportsSecureCoding]
           /* TID 0xc533 */
111147 ms     | +[ACAccountStore defaultStore]
           /* TID 0x6f1f */
111147 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111147 ms     |    |    |    |    | -[ACAccountType description]
111147 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111147 ms     |    |    |    |    |    | -[ACAccountType identifier]
           /* TID 0xc533 */
111148 ms  -[ACAccountStore ams_activeiTunesAccount]
111148 ms     | -[ACAccountStore ams_mediaType]
111148 ms     |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
111148 ms     |    |    | +[AMSAccountStoreCache cacheAccessQueue]
```

```
111148 ms     |    |    | +[AMSAccountStoreCache cache]
111148 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
           /* TID 0x6f1f */
111148 ms     |    | -[ACAccountStore accountsWithAccountType:0x2839f4620]
111148 ms     |    |    | -[ACAccountType description]
111148 ms     |    |    |    | -[ACAccountType accountTypeDescription]
111148 ms     |    |    |    | -[ACAccountType identifier]
111148 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
111148 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fdf2470]
111148 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111148 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x16fdf2450]
111148 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
111148 ms     |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
           /* TID 0x6f1f */
111148 ms     |    |    | -[ACAccountType encodeWithCoder:0x101a88e00]
111148 ms     |    |    |    | -[ACAccountType identifier]
           /* TID 0xc533 */
111148 ms     |    |    |    | +[AMSUnitTests isRunningUnitTests]
111148 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
           /* TID 0x6f1f */
111148 ms     |    |    |    | -[ACAccountType accountTypeDescription]
111148 ms     |    |    |    | -[ACAccountType objectID]
111149 ms     |    |    |    | -[ACAccountType visibility]
111149 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
111149 ms     |    |    |    | -[ACAccountType supportsAuthentication]
111149 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
111149 ms     |    |    |    | -[ACAccountType owningBundleID]
111149 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0xc533 */
111149 ms     | -[ACAccountStore ams_iTunesAccounts]
111149 ms     |    | -[ACAccountStore ams_mediaType]
111149 ms     |    |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
111149 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
111149 ms     |    |    |    | +[AMSAccountStoreCache cache]
111149 ms     |    |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
111149 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
111149 ms     |    |    |    |    | +[AMSUnitTests isRunningUnitTests]
111149 ms     |    |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
111149 ms     |    | +[ACAccountStore ams_accountTypeIdentifierForMediaType:0x1e77eaeb0
]
111149 ms     |    | -[ACAccountStore _ams_accountsWithAccountTypeIdentifier:0x1e741887
8 options:0x1 error:0x16fe7e5c8]
111149 ms     |    |    | -[ACAccountStore _ams_accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e5c8]
111149 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e4e8]
111149 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
111149 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e28
0]
111149 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111149 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e260]
111149 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
111152 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
```

```
111152 ms     |    |    |    |    | -[ACAccountType description]
111152 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111152 ms     |    |    |    |    |    | -[ACAccountType identifier]
111152 ms     |    |    | -[ACAccountStore _ams_accountsWithAccountType:0x2839f4540 opt
ions:0x1 error:0x16fe7e5c8]
111152 ms     |    |    |    | -[ACAccountStore accountsWithAccountType:0x2839f4540 opt
ions:0x1 error:0x16fe7e548]
111152 ms     |    |    |    |    | -[ACAccountType description]
111152 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111152 ms     |    |    |    |    |    | -[ACAccountType identifier]
111152 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
111152 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e21
0]
111152 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111152 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e1f0]
111152 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
111153 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x101a88e00]
111153 ms     |    |    |    |    |    | -[ACAccountType identifier]
111153 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111153 ms     |    |    |    |    |    | -[ACAccountType objectID]
111153 ms     |    |    |    |    |    | -[ACAccountType visibility]
111153 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
111153 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
111153 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
111153 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
111153 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
111163 ms     |    |    |    |    | +[ACAccount supportsSecureCoding]
111163 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111163 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111163 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111163 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111163 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111163 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111164 ms     |    |    |    |    | -[ACAccount description]
111164 ms     |    |    |    |    |    | -[ACAccount username]
111164 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111164 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
111164 ms     |    |    |    |    |    | -[ACAccount identifier]
111164 ms     |    |    |    |    | -[ACAccount description]
111164 ms     |    |    |    |    |    | -[ACAccount username]
111164 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111164 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
111164 ms     |    |    |    |    |    | -[ACAccount identifier]
111164 ms     |    |    |    |    | -[ACAccount description]
111164 ms     |    |    |    |    |    | -[ACAccount username]
111164 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111164 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
111164 ms     |    |    |    |    |    | -[ACAccount identifier]
111164 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111164 ms     |    | -[ACAccount isActive]
111164 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111164 ms     |    | -[ACAccount isActive]
111164 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111164 ms     |    | -[ACAccount isActive]
111186 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
```

```
Identifier:0x2807dbf00]
           /* TID 0x103 */
111186 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28165a440]
111186 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dbf00]
111199 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d26580]
111199 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283cd60
00 completion:0x16fd69d98]
111199 ms     | -[ACAccountStore remoteAccountStoreSession]
111199 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
111199 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111199 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
111199 ms     |    | -[ACRemoteAccountStoreSession _connection]
111199 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x28165a440]
111199 ms     | +[AMSLogConfig sharedAccountsConfig]
111199 ms     | -[AMSLogConfig OSLogObject]
111199 ms     |    | -[AMSLogConfig propertyAccessQueue]
111199 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0x11c23 */
111201 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
111201 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
111201 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
111201 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
111201 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
111201 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
111201 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1703f64c
0]
111201 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xc533 */
111201 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
111201 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
111201 ms     | -[ACAccountStore aa_primaryAppleAccount]
111201 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x28100d400 pr
eloadedProperties:0x0 error:0x0]
111201 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
111201 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e410]
111201 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111201 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x16fe7e3f0]
111201 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0x11c23 */
111201 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1703f64a0]
111201 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
111202 ms  +[ACAccountStore ams_sharedAccountStoreForMediaType:0x1e77eaeb0]
111202 ms     | +[AMSUnitTests isRunningUnitTests]
111202 ms     | +[ACAccountStore defaultStore]
111202 ms  -[ACAccountStore ams_activeiTunesAccount]
111202 ms     | -[ACAccountStore ams_mediaType]
111202 ms     |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
111202 ms     |    |    | +[AMSAccountStoreCache cacheAccessQueue]
111202 ms     |    |    | +[AMSAccountStoreCache cache]
111202 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
```

```
111202 ms     |     |     | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
111202 ms     |     |     |     | +[AMSUnitTests isRunningUnitTests]
111202 ms     |     |     |     | +[AMSProcessInfo defaultMediaTypeAccessQueue]
111202 ms     | -[ACAccountStore ams_iTunesAccounts]
111203 ms     |     | -[ACAccountStore ams_mediaType]
111203 ms     |     |     | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
111203 ms     |     |     |     | +[AMSAccountStoreCache cacheAccessQueue]
111203 ms     |     |     |     | +[AMSAccountStoreCache cache]
111203 ms     |     |     |     |     | +[AMSAccountStoreCache cacheAccessQueue]
111203 ms     |     |     |     | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
111203 ms     |     |     |     |     | +[AMSUnitTests isRunningUnitTests]
111203 ms     |     |     |     |     | +[AMSProcessInfo defaultMediaTypeAccessQueue]
111203 ms     |     | +[ACAccountStore ams_accountTypeIdentifierForMediaType:0x1e77eaeb0
]
111203 ms     |     | -[ACAccountStore _ams_accountsWithAccountTypeIdentifier:0x1e741887
8 options:0x1 error:0x16fe7e5c8]
111203 ms     |     |     | -[ACAccountStore _ams_accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e5c8]
111203 ms     |     |     |     | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e4e8]
111203 ms     |     |     |     |     | -[ACAccountStore remoteAccountStoreSession]
111203 ms     |     |     |     |     |     | -[ACTimedExpirer scheduleExpiration:0x16fe7e28
0]
111203 ms     |     |     |     |     |     |     | -[ACTimedExpirer _unsafeCancelTimer]
111203 ms     |     |     |     |     | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e260]
111203 ms     |     |     |     |     |     | -[ACRemoteAccountStoreSession _connection]
           /* TID 0x11c23 */
111203 ms     |     |     |     |     | -[ACAccountType setAccountStore:0x283916df0]
111203 ms     |     |     |     |     | -[ACAccountType description]
111203 ms     |     |     |     |     |     | -[ACAccountType accountTypeDescription]
111203 ms     |     |     |     |     |     | -[ACAccountType identifier]
           /* TID 0xc533 */
111203 ms     |     |     |     |     | -[ACAccountType setAccountStore:0x283916df0]
111203 ms     |     |     |     |     | -[ACAccountType description]
111203 ms     |     |     |     |     |     | -[ACAccountType accountTypeDescription]
111203 ms     |     |     |     |     |     | -[ACAccountType identifier]
111203 ms     |     |     | -[ACAccountStore _ams_accountsWithAccountType:0x283996e60 opt
ions:0x1 error:0x16fe7e5c8]
111203 ms     |     |     |     | -[ACAccountStore accountsWithAccountType:0x283996e60 opt
ions:0x1 error:0x16fe7e548]
111203 ms     |     |     |     |     | -[ACAccountType description]
111203 ms     |     |     |     |     |     | -[ACAccountType accountTypeDescription]
111203 ms     |     |     |     |     |     | -[ACAccountType identifier]
111203 ms     |     |     |     |     | -[ACAccountStore remoteAccountStoreSession]
111203 ms     |     |     |     |     |     | -[ACTimedExpirer scheduleExpiration:0x16fe7e21
0]
111203 ms     |     |     |     |     |     |     | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0x11c23 */
111203 ms     |     | -[ACAccountStore accountsWithAccountType:0x283928310]
111203 ms     |     |     | -[ACAccountType description]
111203 ms     |     |     |     | -[ACAccountType accountTypeDescription]
111203 ms     |     |     |     | -[ACAccountType identifier]
111203 ms     |     |     | -[ACAccountStore remoteAccountStoreSession]
           /* TID 0xc533 */
111203 ms     |     |     |     |     | -[ACRemoteAccountStoreSession synchronousRemoteObje
```

```
ctProxyWithErrorHandler:0x16fe7e1f0]
111203 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0x11c23 */
111203 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1703f6470]
111203 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xc533 */
111203 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x10225c800]
111203 ms     |    |    |    |    |    | -[ACAccountType identifier]
111203 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111203 ms     |    |    |    |    |    | -[ACAccountType objectID]
111203 ms     |    |    |    |    |    | -[ACAccountType visibility]
111203 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
111203 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
111203 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
111203 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
111204 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
           /* TID 0x11c23 */
111204 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1703f6450]
111204 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
111204 ms     |    |    | -[ACAccountType encodeWithCoder:0x101a88e00]
111204 ms     |    |    |    | -[ACAccountType identifier]
111204 ms     |    |    |    | -[ACAccountType accountTypeDescription]
111204 ms     |    |    |    | -[ACAccountType objectID]
111204 ms     |    |    |    | -[ACAccountType visibility]
111204 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
111204 ms     |    |    |    | -[ACAccountType supportsAuthentication]
111204 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
111204 ms     |    |    |    | -[ACAccountType owningBundleID]
111204 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0x1251f */
111205 ms  -[AKAppleIDAuthenticationContextManager dismissBasicLoginUIForContext:0x1203
6fed0 completion:0x2839f4620]
111205 ms     | -[AKAppleIDAuthenticationContextManager _clientSideContextForServerCont
ext:0x12036fed0]
111205 ms     |    | -[AKAppleIDAuthenticationContext _identifier]
111205 ms     |    | -[AKAppleIDAuthenticationContext _identifier]
111205 ms     |    | -[AKAppleIDAuthenticationContext _updateWithValuesFromContext:0x12
036fed0]
111205 ms     | -[AKAppleIDAuthenticationInAppContext dismissBasicLoginUIWithCompletion
:0x2839f4620]
111205 ms     |    | -[AKAppleIDAuthenticationInAppContext inAppAuthUIProvider]
111205 ms     |    |    | -[AKInAppAuthenticationRemoteUIProvider initWithContext:0x104
10b850]
111205 ms     |    |    |    | -[AKInAppAuthenticationRemoteUIDelegate initWithContext:
0x10410b850]
111205 ms     |    | -[AKInAppAuthenticationRemoteUIProvider dismissBasicLoginUIWithCom
pletion:0x2839f4620]
           /* TID 0x103 */
111205 ms  -[AKInAppAuthenticationRemoteUIProvider cleanUpBasicLoginWithCompletion:0x16
fd6a988]
111205 ms     | -[AKInAppAuthenticationRemoteUIProvider _shouldShowAsView]
           /* TID 0xf107 */
111206 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111206 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111206 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
```

```
           /* TID 0xc533 */
111206 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111206 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111206 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111206 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111206 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111206 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111206 ms     |    |    |    |    | -[ACAccount description]
111206 ms     |    |    |    |    |    | -[ACAccount username]
111206 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111206 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
111206 ms     |    |    |    |    |    | -[ACAccount identifier]
111206 ms     |    |    |    |    | -[ACAccount description]
111206 ms     |    |    |    |    |    | -[ACAccount username]
           /* TID 0xf107 */
111206 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
           /* TID 0xc533 */
111206 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
           /* TID 0xf107 */
111206 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111206 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
           /* TID 0xc533 */
111206 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
           /* TID 0xf107 */
111207 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111207 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111207 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111207 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111207 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111207 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
111207 ms  +[AKAppleIDAuthenticationController sensitiveAuthenticationKeys]
           /* TID 0xc533 */
111207 ms     |    |    |    |    |    | -[ACAccount identifier]
111207 ms     |    |    |    |    | -[ACAccount description]
111207 ms     |    |    |    |    |    | -[ACAccount username]
111207 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111207 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
111207 ms     |    |    |    |    |    | -[ACAccount identifier]
111207 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111207 ms     |    | -[ACAccount isActive]
111207 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111207 ms     |    | -[ACAccount isActive]
111207 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111207 ms     |    | -[ACAccount isActive]
           /* TID 0xf107 */
111207 ms  -[AKAppleIDAuthenticationContextManager unregisterContext:0x10410b850]
111207 ms     | -[AKAppleIDAuthenticationContext _identifier]
           /* TID 0x103 */
111207 ms  -[AAUISignInViewController _delegate_signInViewControllerDidCompleteWithAuth
enticationResults:0x2816ab1e0]
111207 ms     | -[AAUISignInViewController delegate]
111207 ms     | -[AAUISignInController signInViewController:0x10400ce10 didCompleteWith
AuthenticationResults:0x2816ab1e0]
111207 ms     |    | -[AAUISignInController _mainQueue_presentSpinnerViewControllerInPa
rentViewController:0x103812200 withCompletion:0x16fd6a8d8]
111207 ms     |    |    | -[AAUISignInController _spinnerViewController]
```

```
111207 ms     |    |    |    | -[AAUISpinnerViewController initWithNibName:0x0 bundle:0
x0]
111207 ms     |    |    |    |    | -[AAUISpinnerViewController _commonInit]
111208 ms     |    |    |    |    |    | -[AAUISpinnerViewController setSpinning:0x1]
111208 ms     |    |    |    | -[AAUISpinnerViewController label]
111208 ms     |    |    |    | -[AAUISignInController serviceType]
111208 ms     |    |    |    | -[AAUISignInController _spinnerMessageForService:0x0]
           /* TID 0x11c23 */
111208 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807e3e40]
           /* TID 0x1251f */
111210 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dfb00]
           /* TID 0x103 */
111211 ms     |    |    | -[AAUISignInController _mainQueue_continueSignInWithAuthentic
ationResults:0x2816ab1e0 parentViewController:0x103812200]
111211 ms     |    |    |    | -[AAUISignInController serviceType]
111211 ms     |    |    |    | -[AAUISignInController serviceContextWithResults:0x2816a
b1e0 parentViewController:0x103812200]
111211 ms     |    |    |    |    | -[AAUISignInController _shouldForceOperation]
111212 ms     |    |    |    |    | -[AAUISignInFlowControllerDelegate initWithPresenti
ngViewController:0x103812200]
111212 ms     |    |    |    |    |    | -[ACAccountStore init]
111212 ms     |    |    |    |    |    |    | -[ACAccountStore initWithRemoteEndpoint:0
x0 effectiveBundleID:0x0]
111212 ms     |    |    |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:
0x1e]
111212 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer init]
111212 ms     |    |    |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:
0x1e]
111212 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer init]
111212 ms     |    |    |    |    |    |    |    | +[ACNotificationRebroadcaster shared
Rebroadcaster]
111212 ms     |    |    |    | -[AAUISignInController _serviceOwnersManager]
111212 ms     |    |    |    | -[AAUISignInController _serviceOwnersManager]
111213 ms     |    |    |    | -[AACloudServiceOwner signInService:0x1ecb2df10 withCont
ext:0x2831f0730 completion:0x16fd6a660]
111213 ms     |    |    |    |    | +[AACloudServiceOwner _serviceTypeForPlatform]
111213 ms     |    |    |    |    | -[AASignInFlowController init]
111213 ms     |    |    |    |    |    | -[ACAccountStore init]
111213 ms     |    |    |    |    |    |    | -[ACAccountStore initWithRemoteEndpoint:0
x0 effectiveBundleID:0x0]
111213 ms     |    |    |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:
0x1e]
111213 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer init]
111213 ms     |    |    |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:
0x1e]
111213 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer init]
111213 ms     |    |    |    |    |    |    |    | +[ACNotificationRebroadcaster shared
Rebroadcaster]
111213 ms     |    |    |    |    | -[AASignInFlowController setShouldAutomaticallySave
SignInResults:0x1]
111213 ms     |    |    |    |    | -[AASignInFlowController setCdpUIProvider:0x2836f47
e0]
111213 ms     |    |    |    |    | -[AASignInFlowController setDelegate:0x2831f0820]
111213 ms     |    |    |    |    | -[AASignInFlowController signInWithIDMSAuthenticati
```

```
onResults:0x28169c620 completion:0x16fd6a5b0]
111213 ms     |    |    |    |    |    | -[AASignInFlowController _updateOrCreateAppleA
ccountForAuthResults:0x28169c620 accountCreationError:0x16fd6a4b0]
111213 ms     |    |    |    |    |    |    | -[ACAccountStore aa_appleAccountWithPerso
nID:0x28169cf40]
111213 ms     |    |    |    |    |    |    |    | -[ACAccountStore accountsWithAccount
TypeIdentifiers:0x28100d780 preloadedProperties:0x0 error:0x0]
111213 ms     |    |    |    |    |    |    |    |    | -[ACAccountStore remoteAccountS
toreSession]
111213 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountStore connectio
nDelegate]
111213 ms     |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSess
ion initWithListenerEndpoint:0x0 delegate:0x0]
111213 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccountStoreClien
tSideListener initWithDelegate:0x0]
111213 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountStore effective
BundleID]
111213 ms     |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSess
ion setEffectiveBundleID:0x0]
111213 ms     |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer scheduleE
xpiration:0x16fd6a030]
111213 ms     |    |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer _uns
afeCancelTimer]
111213 ms     |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession s
ynchronousRemoteObjectProxyWithErrorHandler:0x16fd6a010]
111213 ms     |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSess
ion _connection]
111213 ms     |    |    |    |    |    |    |    |    |    |    | -[ACTrackedXPCConnect
ion init]
111213 ms     |    |    |    |    |    |    |    |    |    |    | +[ACRemoteAccountStor
eInterface XPCInterface]
111213 ms     |    |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStor
eSession _locked_configureRemoteAccountStoreWithConnection:0x282346080]
111215 ms     |    |    |    |    |    |    | -[AASignInFlowController _createNewAppleA
ccountWithAuthResults:0x28169c620 accountCreationError:0x16fd6a4b0]
111215 ms     |    |    |    |    |    |    |    | -[ACAccountStore aa_appleAccountType
]
111215 ms     |    |    |    |    |    |    |    |    | -[ACAccountStore accountTypeWit
hAccountTypeIdentifier:0x1e74187d8 error:0x0]
111215 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountStore remoteAcc
ountStoreSession]
111215 ms     |    |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer sche
duleExpiration:0x16fd6a110]
111215 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer
 _unsafeCancelTimer]
111215 ms     |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSess
ion synchronousRemoteObjectProxyWithErrorHandler:0x16fd6a0f0]
111215 ms     |    |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStor
eSession _connection]
111215 ms     |    |    |    |    |    |    |    |    |    | +[ACAccountType supportsSe
cureCoding]
111215 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountType setAccount
Store:0x2839f4a10]
111215 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountType descriptio
n]
111215 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccountType accou
```

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ntTypeDescription]
111216 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccountType ident
ifier]
111216 ms     |    |    |    |    |    |    |    | -[ACAccount initWithAccountType:0x28
39f4460]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccountType supportsAuthent
ication]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417f18]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417f98]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417e98]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417f58]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417f78]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d78]
111216 ms     |    |    |    |    |    |    |    | -[ACAccount setUsername:0x281d07cc0]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _useParentForCreden
tials]
111216 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount authentication
Type]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417e58]
111216 ms     |    |    |    |    |    |    |    | -[ACAccount _aa_setPersonID:0x281659
9c0]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccount setAccountProperty:
0x2816599c0 forKey:0x1e8b42670]
111216 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPr
opertyDirty:0x1e7417df8]
111216 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _markAccountPr
opertyDirty:0x1e8b42670]
111216 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_m
arkAccountPropertyDirty:0x1e8b42670]
111216 ms     |    |    |    |    |    |    |    | -[AASignInFlowController _userPerson
aUniqueString]
111216 ms     |    |    |    |    |    |    |    | +[AAPreferences isMultipleFullAccoun
tsEnabled]
111216 ms     |    |    |    |    |    |    |    |    | +[AADeviceInfo isInternalBuild]
111216 ms     |    |    |    |    |    |    |    | -[ACAccountStore aa_primaryAppleAcco
unt]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccountStore accountsWithAc
countTypeIdentifiers:0x28100d4e0 preloadedProperties:0x0 error:0x0]
111216 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountStore remoteAcc
ountStoreSession]
111216 ms     |    |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer sche
duleExpiration:0x16fd69fe0]
111216 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer
 _unsafeCancelTimer]
111216 ms     |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSess
ion synchronousRemoteObjectProxyWithErrorHandler:0x16fd69fc0]
111216 ms     |    |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStor
eSession _connection]
111216 ms     |    |    |    |    |    |    |    | -[ACAccountStore aa_dataSeparatedAcc
```

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ounts]
111216 ms     |    |    |    |    |    |    |    | -[ACAccountStore aa_appleAccoun
ts]
111216 ms     |    |    |    |    |    |    |    |    | -[ACAccountStore accountsW
ithAccountTypeIdentifiers:0x281008790 preloadedProperties:0x0 error:0x0]
111216 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountStore remo
teAccountStoreSession]
111216 ms     |    |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer
 scheduleExpiration:0x16fd69fc0]
111216 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACTimedEx
pirer _unsafeCancelTimer]
111216 ms     |    |    |    |    |    |    |    |    |    | -[ACRemoteAccountStor
eSession synchronousRemoteObjectProxyWithErrorHandler:0x16fd69fa0]
111216 ms     |    |    |    |    |    |    |    |    |    |    | -[ACRemoteAccoun
tStoreSession _connection]
111216 ms     |    |    |    |    |    |    | -[AASignInFlowController _nameForClo
udService]
111218 ms     |    |    |    |    |    |    | -[ACAccount setAccountDescription:0x
b40cf5309fe54ceb]
111218 ms     |    |    |    |    |    |    |    | -[ACAccount parentAccount]
111218 ms     |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417e78]
111218 ms     |    |    |    |    |    |    | -[ACAccount aa_setAccountClass:0x1e8
b42a50]
111218 ms     |    |    |    |    |    |    |    | -[ACAccount accountType]
111218 ms     |    |    |    |    |    |    |    | -[ACAccountType identifier]
111218 ms     |    |    |    |    |    |    |    | -[ACAccount setObject:0x1e8b42a
50 forKeyedSubscript:0x1e8b42c10]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount setAccountProp
erty:0x1e8b42a50 forKey:0x1e8b42c10]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_m
arkPropertyDirty:0x1e7417df8]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _markAcco
untPropertyDirty:0x1e8b42c10]
111218 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount _uns
afe_markAccountPropertyDirty:0x1e8b42c10]
111218 ms     |    |    |    |    |    |    |    | -[ACAccount setObject:0x1f6189a
f8 forKeyedSubscript:0x1e8b426f0]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount setAccountProp
erty:0x1f6189af8 forKey:0x1e8b426f0]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_m
arkPropertyDirty:0x1e7417df8]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _markAcco
untPropertyDirty:0x1e8b426f0]
111218 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount _uns
afe_markAccountPropertyDirty:0x1e8b426f0]
111218 ms     |    |    |    |    |    |    | -[AASignInFlowController _saveTermsW
ithAuthResults:0x28169c620 account:0x282b408c0]
111218 ms     |    |    |    |    |    | -[AASignInFlowController _updateAppleAcco
unt:0x282b408c0 withAuthenticationResults:0x28169c620]
111218 ms     |    |    |    |    |    |    | +[ACAccountCredential credentialWith
Password:0x100711390]
111218 ms     |    |    |    |    |    |    |    | -[ACAccountCredential initWithP
assword:0x100711390]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccountCredential setP
assword:0x100711390]
```

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111218 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccountCredential
 setCredentialItem:0x100711390 forKey:0x1e7419098]
111218 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACZeroingStrin
g initWithString:0x100711390]
111218 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACAccountCrede
ntial _markPropertyDirty:0x1e7419578]
111218 ms     |    |    |    |    |    |    |    | -[ACAccount setCredential:0x281ce7e7
0]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount _useParentForCreden
tials]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount authentication
Type]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount _installCredentials
ChangedObserver]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccountCredential _setOwnin
gAccount:0x282b408c0]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount setLastCredentialRe
newalRejectionDate:0x0]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _useParentForC
redentials]
111218 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount authentic
ationType]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPr
opertyDirty:0x1e7417ed8]
111218 ms     |    |    |    |    |    |    |    | -[ACAccount _aa_setRawPassword:0x281
6a8de0]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount _aa_rawPassword]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount credential]
111218 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount credentia
lWithError:0x0]
111218 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACAccount _use
ParentForCredentials]
111218 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[ACAccount
 authenticationType]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountCredential cred
entialItemForKey:0x1e7419198]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccount credential]
111218 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount credentialWith
Error:0x0]
111218 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount _useParen
tForCredentials]
111218 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACAccount auth
enticationType]
111218 ms     |    |    |    |    |    |    |    |    | -[ACAccountCredential setCreden
tialItem:0x2816a8de0 forKey:0x1e7419198]
111219 ms     |    |    |    |    |    |    |    |    |    | -[ACZeroingString initWith
String:0x2816a8de0]
111219 ms     |    |    |    |    |    |    |    |    |    | -[ACAccountCredential _mar
kPropertyDirty:0x1e7419578]
111219 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount _markCred
entialDirty]
111219 ms     |    |    |    |    |    |    |    |    |    |    |    | -[ACAccount _mar
kPropertyDirty:0x1e7417d98]
111219 ms     |    |    |    |    |    |    |    |    |    |    |    |    | -[ACAccount
```

```
 _unsafe_markPropertyDirty:0x1e7417d98]
111219 ms     |    |    |    |    |    |    | -[ACAccount aa_isAccountClass:0x1e8b42a50
]
111219 ms     |    |    |    |    |    |    |    | -[ACAccount aa_accountClass]
111219 ms     |    |    |    |    |    |    |    |    | -[ACAccount objectForKeyedSubsc
ript:0x1e8b42c10]
111219 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount accountPropert
yForKey:0x1e8b42c10]
111219 ms     |    |    |    |    |    |    | -[AASignInFlowController _createCDPContex
tForPrimaryAccount:0x282b408c0 withAuthResults:0x28169c620]
111219 ms     |    |    |    |    |    |    |    | -[AASignInFlowController delegate]
111219 ms     |    |    |    |    |    |    |    | -[AASignInFlowController delegate]
111219 ms     |    |    |    |    |    |    |    | -[AAUISignInFlowControllerDelegate s
kipCDPEnablement]
111219 ms     |    |    |    |    |    |    |    | -[AASignInFlowController delegate]
111219 ms     |    |    |    |    |    |    |    | -[AASignInFlowController delegate]
111219 ms     |    |    |    |    |    |    |    | -[AAUISignInFlowControllerDelegate c
dpContext]
111219 ms     |    |    |    |    |    |    |    | -[AASignInFlowController messageSess
ion]
111219 ms     |    |    |    |    |    |    |    | -[AASignInFlowController ignoreLockA
ssertErrors]
111219 ms     |    |    |    |    |    | -[AASignInFlowController _delegateRequiresTerm
s]
111219 ms     |    |    |    |    |    |    | -[AASignInFlowController delegate]
111219 ms     |    |    |    |    |    |    | -[AASignInFlowController delegate]
111219 ms     |    |    |    |    |    |    | -[AAUISignInFlowControllerDelegate requir
edTerms]
111219 ms     |    |    |    |    |    | -[AASignInFlowController _registerAndVerifyLog
inForiCloudAccount:0x282b408c0 withCompletion:0x2807d6400]
111219 ms     |    |    |    |    |    |    | +[AAPreferences shouldUseUnifiedLoginEndp
oint]
111221 ms     |    |    |    |    |    |    | +[AAiCloudLoginAccountRequester delegateP
aramsForAllDelegates]
111221 ms     |    |    |    |    |    |    | -[ACAccountStore aa_loginAndUpdateiCloudA
ccount:0x282b408c0 delegateParams:0x2807d5040 withCompletion:0x16fd6a398]
111221 ms     |    |    |    |    |    |    |    | -[ACAccount accountType]
111221 ms     |    |    |    |    |    |    |    | -[ACAccountType identifier]
111221 ms     |    |    |    |    |    |    |    | -[AAiCloudLoginAccountRequester logi
nWithAccount:0x282b408c0 forDelegates:0x2807d5040 completion:0x16fd6a2b0]
111221 ms     |    |    |    |    |    |    |    |    | -[AALoginAccountRequest initWit
hAccount:0x282b408c0 delegates:0x2807d5040]
111221 ms     |    |    |    |    |    |    |    |    | -[AARequest performSignedReques
tWithHandler:0x16fd6a258]
111221 ms     |    |    |    |    |    |    |    |    |    | +[AAURLSession sharedSigni
ngSession]
111221 ms     |    |    |    |    |    |    |    |    |    | -[AARequest performRequest
WithSession:0x281cc68b0 withHandler:0x16fd6a258]
111221 ms  -[AAUISignInViewController _setEnabled:0x1]
111221 ms     | -[AAUISignInViewController _hasValidCredentials]
111221 ms     | -[AAUISignInViewController _setUsernameCellWaiting:0x0]
111221 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169d280]
111221 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807e3e40]
111222 ms  -[ACAccount credentialsChanged:0x28169d280]
111222 ms     | -[ACAccount identifier]
111222 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169d0a0]
```

```
111222 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dfb00]
111222 ms  -[ACAccount credentialsChanged:0x28169d0a0]
111222 ms     | -[ACAccount identifier]
           /* TID 0x11c23 */
111222 ms  -[AALoginAccountRequest urlString]
111222 ms     | +[AAURLConfiguration urlConfiguration]
111222 ms     |    | +[AAURLConfiguration _urlConfigurationWithError:0x0]
111222 ms     |    |    | +[AAURLConfiguration remoteServer]
111222 ms     |    |    |    | +[AARemoteServer sharedServer]
111222 ms     |    |    | -[AARemoteServer configurationWithCompletion:0x1703f6d48]
111222 ms     |    |    |    | -[AARemoteServer _configurationAndResponseWithCompletion
:0x1703f6ce8]
111222 ms     |    |    |    |    | -[AARemoteServer _configurationCacheInvalidatingIfN
ecessary]
111222 ms     |    |    |    |    |    | -[AARemoteServer _configurationLock_configurat
ionCacheInvalidatingIfNecessary]
111222 ms     |    |    |    |    |    |    | -[AARemoteServerConfigurationCache creati
onDate]
111222 ms     |    |    |    |    | -[AARemoteServerConfigurationCache configuration]
111222 ms     |    |    |    |    | -[AARemoteServerConfigurationCache response]
111222 ms     | -[AAURLConfiguration loginAccountURL]
111222 ms     |    | -[AAURLConfiguration _urlStringForKey:0x1e8b3eb10]
111222 ms  -[AALoginAccountRequest urlRequest]
111222 ms     | -[AARequest urlRequest]
111222 ms     |    | -[AALoginAccountRequest urlString]
111222 ms     |    |    | +[AAURLConfiguration urlConfiguration]
111222 ms     |    |    |    | +[AAURLConfiguration _urlConfigurationWithError:0x0]
111222 ms     |    |    |    |    | +[AAURLConfiguration remoteServer]
111222 ms     |    |    |    |    | -[AARemoteServer configurationWithCompletion:0x1703
f6b18]
111222 ms     |    |    |    |    |    | -[AARemoteServer _configurationAndResponseWith
Completion:0x1703f6ab8]
111222 ms     |    |    |    |    |    |    | -[AARemoteServer _configurationCacheInval
idatingIfNecessary]
111222 ms     |    |    |    |    |    |    |    | -[AARemoteServer _configurationLock_
configurationCacheInvalidatingIfNecessary]
111222 ms     |    |    |    |    |    |    |    |    | -[AARemoteServerConfigurationCa
che creationDate]
111222 ms     |    |    |    |    |    |    | -[AARemoteServerConfigurationCache config
uration]
111223 ms     |    |    |    |    |    |    | -[AARemoteServerConfigurationCache respon
se]
111223 ms     |    |    | -[AAURLConfiguration loginAccountURL]
111223 ms     |    |    |    | -[AAURLConfiguration _urlStringForKey:0x1e8b3eb10]
           /* TID 0x103 */
111226 ms  -[AAUISpinnerViewController viewDidLoad]
           /* TID 0x11c23 */
111227 ms     |    | -[AARequest flushCache]
111227 ms     |    | +[AADeviceInfo clientInfoHeader]
111228 ms     |    |    | +[AADeviceInfo clientInfoHeader]
111228 ms     |    |    |    | -[AADeviceInfo productType]
111228 ms     |    |    |    | -[AADeviceInfo osName]
111228 ms     |    |    |    | +[AADeviceInfo osVersion]
111228 ms     |    |    |    | -[AADeviceInfo buildVersion]
           /* TID 0x103 */
111228 ms  -[AAUISpinnerViewController viewWillAppear:0x1]
```

```
           /* TID 0x11c23 */
111230 ms     |    | +[AAPreferences isExperimentalModeEnabled]
111230 ms     |    |    | +[AADeviceInfo isInternalBuild]
111231 ms     | -[AARequest bodyDictionary]
111231 ms     |    | +[AARequest protocolVersion]
111231 ms     |    | +[AADeviceInfo appleIDClientIdentifier]
111231 ms     |    |    | +[AADeviceInfo appleIDClientIdentifier]
111236 ms     | +[AADeviceInfo udid]
111237 ms     | +[AADeviceInfo udid]
111237 ms     |    | +[AADeviceInfo udid]
           /* TID 0x103 */
111237 ms  -[AAUIServiceIconView didMoveToWindow]
           /* TID 0x11c23 */
111237 ms     | -[ACAccount description]
111237 ms     |    | -[ACAccount username]
111237 ms     |    |    | -[ACAccount _useParentForCredentials]
111237 ms     |    |    |    | -[ACAccount authenticationType]
111237 ms     |    | -[ACAccount identifier]
111237 ms     | -[ACAccount username]
111237 ms     |    | -[ACAccount _useParentForCredentials]
111237 ms     |    |    | -[ACAccount authenticationType]
111237 ms     | -[ACAccount aa_password]
111237 ms     |    | -[ACAccount credential]
111237 ms     |    |    | -[ACAccount credentialWithError:0x0]
111237 ms     |    |    |    | -[ACAccount _useParentForCredentials]
111237 ms     |    |    |    |    | -[ACAccount authenticationType]
111237 ms     |    | -[ACAccountCredential password]
111238 ms     |    |    | -[ACAccountCredential credentialItemForKey:0x1e7419098]
111238 ms     |    |    |    | -[ACZeroingString length]
111238 ms     |    |    |    | -[ACZeroingString getCharacters:0x129628580 range:0x0]
111238 ms     | -[ACAccount username]
111238 ms     |    | -[ACAccount _useParentForCredentials]
111238 ms     |    |    | -[ACAccount authenticationType]
111238 ms     | -[ACAccount aa_password]
111238 ms     |    | -[ACAccount credential]
111238 ms     |    |    | -[ACAccount credentialWithError:0x0]
111238 ms     |    |    |    | -[ACAccount _useParentForCredentials]
111238 ms     |    |    |    |    | -[ACAccount authenticationType]
111238 ms     |    | -[ACAccountCredential password]
111238 ms     |    |    | -[ACAccountCredential credentialItemForKey:0x1e7419098]
111238 ms     |    |    |    | -[ACZeroingString length]
111238 ms     |    |    |    | -[ACZeroingString getCharacters:0x12961eb90 range:0x0]
111238 ms     | -[ACAccount aa_altDSID]
111238 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b3c830]
111238 ms     | -[ACAccount aa_repairState]
111238 ms     |    | -[ACAccount parentAccount]
111238 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b42bf0]
111238 ms     | -[ACAccount aa_personID]
111238 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b42670]
111238 ms     | -[AADeviceProvisioningSession initWithDSID:0x2816599c0]
111238 ms     | -[AADeviceProvisioningSession addProvisioningInfoToURLRequest:0x28100c0
c0 sendEmptyValues:0x0]
111238 ms     |    | -[AADeviceProvisioningSession deviceProvisioningInfo]
           /* TID 0x103 */
111241 ms  -[AAUIServiceIconView didMoveToWindow]
           /* TID 0x11c23 */
```

```
111242 ms     | +[AKDevice currentDeviceAuthenticationMode]
111242 ms     |    | +[AKDevice _currentDeviceAuthenticationMode]
           /* TID 0x1251f */
111242 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dacc0]
           /* TID 0x11c23 */
111244 ms     | +[AARequest redactedHeadersFromHTTPHeaders:0x2807d67c0]
111244 ms     | -[AARequest redactedBodyStringWithPropertyList:0x281659c00]
111244 ms  -[AAURLSession dataTaskWithRequest:0x28100c0c0 completion:0x1703f6e40]
111244 ms     | -[AAURLSession _enqueueRequest:0x28100c0c0 completion:0x1703f6e40]
111245 ms     |    | -[AKAppleIDSession initWithIdentifier:0x281cc6e50]
111245 ms     |    | -[AAURLSessionContext _initRequiringSigning:0x1 appleIDSession:0x2
807d6380]
           /* TID 0xc533 */
111246 ms  -[AAURLSession _sessionQueue_enqueueTask:0x1006f4b90 completion:0x281cc79c0]
           /* TID 0x11c23 */
111248 ms  -[AAURLSessionContext URLSession:0x104216cb0 task:0x1006f4b90 getAppleIDHead
ersForResponse:0x0 completionHandler:0x1703f6650]
111248 ms     | -[AKAppleIDSession URLSession:0x104216cb0 task:0x12035aed0 getAppleIDHe
adersForResponse:0x0 completionHandler:0x1703f65c0]
111248 ms     |    | -[AKAppleIDSession _generateAppleIDHeadersForSessionTask:0x12035ae
d0 withCompletion:0x1703f6538]
111248 ms     |    |    | -[AKAppleIDSession _nativeAnisetteController]
111248 ms     |    |    |    | -[AKAnisetteProvisioningController init]
111248 ms     |    |    | -[AKAnisetteProvisioningController anisetteDataForURLRequest:
0x28100c4f0 completion:0x1703f6428]
111248 ms     |    |    |    | -[AKAnisetteProvisioningController fetchAnisetteDataAndP
rovisionIfNecessary:0x1 withCompletion:0x1703f6428]
111248 ms     |    |    |    |    | -[AKAnisetteProvisioningController _anisetteService
Connection]
111248 ms     |    |    |    |    |    | +[AKAnisetteProvisioningDaemonInterface XPCInt
erface]
111248 ms     |    |    |    |    |    | +[AKAnisetteProvisioningClientInterface XPCInt
erface]
           /* TID 0x103 */
111254 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281c22490]
           /* TID 0xf107 */
111254 ms  +[AKAnisetteData supportsSecureCoding]
111254 ms  -[AKAppleIDSession _genericAppleIDHeadersDictionaryForRequest:0x28100c4f0]
           /* TID 0x103 */
111254 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x2816bfce0]
111254 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dacc0]
111254 ms  -[ACAccount credentialsChanged:0x2816bfce0]
111254 ms     | -[ACAccount identifier]
           /* TID 0xf107 */
111255 ms     | +[AKDevice currentDevice]
111255 ms     | -[AKDevice locale]
111255 ms  -[AKAnisetteData machineID]
111255 ms  -[AKAnisetteData oneTimePassword]
111255 ms  -[AKAnisetteData routingInfo]
111255 ms  +[AKDevice currentDevice]
111255 ms  -[AKDevice localUserUUID]
111255 ms  +[AKConfiguration sharedConfiguration]
111255 ms  -[AKConfiguration shouldAllowTestApplication]
111255 ms     | -[AKConfiguration configurationValueForKey:0x1e8b17ff8]
111255 ms  -[AKAppleIDSession _pairedDeviceAnisetteController]
```

```
111255 ms  -[AAURLSessionContext _additionalHeadersForRequest:0x28100daa0 completion:0x
1701c6270]
111255 ms     | -[AAURLSessionContext requiresSigning]
           /* TID 0xc533 */
111255 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
111255 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
111255 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
111255 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
111255 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
111255 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
111255 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e4c
0]
111255 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0x103 */
111255 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283c299
00 completion:0x16fd69d98]
111255 ms     | -[ACAccountStore remoteAccountStoreSession]
111255 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
111255 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111255 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
111255 ms     |    | -[ACRemoteAccountStoreSession _connection]
111256 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x2816be8a0]
111256 ms     | +[AMSLogConfig sharedAccountsConfig]
111256 ms     | -[AMSLogConfig OSLogObject]
111256 ms     |    | -[AMSLogConfig propertyAccessQueue]
111256 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0xf107 */
111256 ms     | -[AAURLSessionContext remoteServer]
111256 ms     |    | +[AARemoteServer sharedServer]
111256 ms     | -[AARemoteServer configurationWithCompletion:0x1701c61f0]
111256 ms     |    | -[AARemoteServer _configurationAndResponseWithCompletion:0x1701c61
98]
111256 ms     |    |    | -[AARemoteServer _configurationCacheInvalidatingIfNecessary]
111256 ms     |    |    |    | -[AARemoteServer _configurationLock_configurationCacheIn
validatingIfNecessary]
111256 ms     |    |    |    |    | -[AARemoteServerConfigurationCache creationDate]
111256 ms     |    |    | -[AARemoteServerConfigurationCache configuration]
111256 ms     |    |    | -[AARemoteServerConfigurationCache response]
111256 ms     |    |    | +[AADeviceInfo currentInfo]
111256 ms     |    |    | +[AADeviceInfo udid]
           /* TID 0x1251f */
111256 ms  +[NSError _web_errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 URL:0x283
9f5500]
111256 ms     | -[NSError _web_initWithDomain_nowarn:0x1f61f0440 code:0xffffffffffffffc1
9 URL:0x2839f5500]
111256 ms     |    | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userI
nfo:0x2816bd3e0]
111256 ms  -[NSError userInfo]
111256 ms  -[NSError domain]
111256 ms  -[NSError code]
111256 ms  -[NSError domain]
111256 ms  -[NSError code]
111256 ms  -[NSError userInfo]
```

```
111256 ms  -[NSError userInfo]
111256 ms  -[NSError domain]
111256 ms  -[NSError code]
111256 ms  +[NSError errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0x281
6bc540]
111256 ms     | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0
x2816bc540]
111256 ms  -[NSError code]
111256 ms  -[NSError code]
111256 ms  -[NSError description]
111256 ms     | -[NSError userInfo]
111256 ms     | -[NSError domain]
111256 ms     | -[NSError userInfo]
111256 ms     | -[NSError domain]
111256 ms     | -[NSError userInfo]
111256 ms     | -[NSError userInfo]
111256 ms     | -[NSError domain]
111256 ms     | -[NSError code]
           /* TID 0x11c23 */
111257 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
111257 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
111257 ms     | -[ACAccountStore aa_primaryAppleAccount]
111257 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x2810210d0 pr
eloadedProperties:0x0 error:0x0]
111257 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
           /* TID 0xc533 */
111257 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e4a0]
111257 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xf107 */
111257 ms     |    |    | +[AADeviceInfo currentInfo]
111257 ms     |    |    | +[AADeviceInfo serialNumber]
111257 ms     |    |    | -[AAURLConfiguration absintheEnable]
111257 ms     |    |    | -[AAURLSessionContext _additionalAbsintheHeadersForData:0x120
32b4b0 completion:0x2807ea140]
111258 ms     |    |    |    | -[AAURLSessionContext absintheSigner]
           /* TID 0x11c23 */
111258 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1703f6410]
111258 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111258 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1703f63f0]
111258 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
111258 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111258 ms     |    |    |    |    | -[ACAccountType description]
111258 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111258 ms     |    |    |    |    |    | -[ACAccountType identifier]
111258 ms     |    | -[ACAccountStore accountsWithAccountType:0x2839f4ee0]
111258 ms     |    |    | -[ACAccountType description]
111258 ms     |    |    |    | -[ACAccountType accountTypeDescription]
111258 ms     |    |    |    | -[ACAccountType identifier]
           /* TID 0xf107 */
111258 ms     |    |    |    |    | +[AAAbsintheSigner sharedSigner]
111258 ms     |    |    |    | -[AAAbsintheSigner signatureForData:0x12032b4b0 completi
on:0x1701c5f28]
111258 ms     |    |    |    |    | -[AAAbsintheSigner _contextWithCompletion:0x1701c5e
```

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b0]
111258 ms     |    |    |    |    |    | -[AAAbsintheSigner context]
111258 ms     |    |    |    |    |    |    | -[AAAbsintheSigner _contextLock_contextIn
validatingIfNecessary]
111258 ms     |    |    |    |    |    |    |    | -[AAAbsintheSignerContextCache creat
ionDate]
111258 ms     |    |    |    |    |    |    |    | -[AAAbsintheSignerContextCache conte
xt]
111258 ms     |    |    |    |    |    | -[AAAbsintheContext cao1NI5PNJBn:0x12032b4b0 e
rror:0x1701c5df8]
           /* TID 0xc533 */
111259 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
111259 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e470]
111259 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111259 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x16fe7e450]
111259 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
111259 ms     |    |    | -[ACAccountType encodeWithCoder:0x10225c800]
111259 ms     |    |    |    | -[ACAccountType identifier]
111259 ms     |    |    |    | -[ACAccountType accountTypeDescription]
111259 ms     |    |    |    | -[ACAccountType objectID]
111259 ms     |    |    |    | -[ACAccountType visibility]
111259 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
111259 ms     |    |    |    | -[ACAccountType supportsAuthentication]
111259 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
111259 ms     |    |    |    | -[ACAccountType owningBundleID]
111259 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0x11c23 */
111259 ms  +[ACAccountStore ams_sharedAccountStoreForMediaType:0x1e77eaeb0]
111259 ms     | +[AMSUnitTests isRunningUnitTests]
111259 ms     | +[ACAccountStore defaultStore]
111260 ms  -[ACAccountStore ams_activeiTunesAccount]
111260 ms     | -[ACAccountStore ams_mediaType]
111260 ms     |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
111260 ms     |    |    | +[AMSAccountStoreCache cacheAccessQueue]
111260 ms     |    |    | +[AMSAccountStoreCache cache]
111260 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
111260 ms     |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
111260 ms     |    |    |    | +[AMSUnitTests isRunningUnitTests]
111260 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
111260 ms     | -[ACAccountStore ams_iTunesAccounts]
111260 ms     |    | -[ACAccountStore ams_mediaType]
111260 ms     |    |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
111260 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
111260 ms     |    |    |    | +[AMSAccountStoreCache cache]
111260 ms     |    |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
111260 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
111260 ms     |    |    |    |    | +[AMSUnitTests isRunningUnitTests]
111260 ms     |    |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
111260 ms     |    | +[ACAccountStore ams_accountTypeIdentifierForMediaType:0x1e77eaeb0
]
111260 ms     |    | -[ACAccountStore _ams_accountsWithAccountTypeIdentifier:0x1e741887
8 options:0x1 error:0x1703f65c8]
111260 ms     |    |    | -[ACAccountStore _ams_accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x1703f65c8]
111260 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
```

```
1e7418878 error:0x1703f64e8]
111260 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
111260 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1703f628
0]
111260 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111260 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1703f6260]
111260 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
111261 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111261 ms     |    |    |    |    | -[ACAccountType description]
111261 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111261 ms     |    |    |    |    |    | -[ACAccountType identifier]
111261 ms     |    |    | -[ACAccountStore _ams_accountsWithAccountType:0x2839a8230 opt
ions:0x1 error:0x1703f65c8]
111261 ms     |    |    |    | -[ACAccountStore accountsWithAccountType:0x2839a8230 opt
ions:0x1 error:0x1703f6548]
111261 ms     |    |    |    |    | -[ACAccountType description]
111261 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111261 ms     |    |    |    |    |    | -[ACAccountType identifier]
111261 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
111261 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1703f621
0]
111261 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
111261 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1703f61f0]
111261 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
111261 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x102837c00]
111261 ms     |    |    |    |    |    | -[ACAccountType identifier]
111261 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
111261 ms     |    |    |    |    |    | -[ACAccountType objectID]
111261 ms     |    |    |    |    |    | -[ACAccountType visibility]
111261 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
111261 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
111261 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
111261 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
111261 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
111266 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111266 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111267 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111267 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111267 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
111267 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
111267 ms     |    |    |    |    | -[ACAccount description]
111267 ms     |    |    |    |    |    | -[ACAccount username]
111267 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111267 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
111267 ms     |    |    |    |    |    | -[ACAccount identifier]
111267 ms     |    |    |    |    | -[ACAccount description]
111267 ms     |    |    |    |    |    | -[ACAccount username]
111267 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111267 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
111267 ms     |    |    |    |    |    | -[ACAccount identifier]
111267 ms     |    |    |    |    | -[ACAccount description]
111267 ms     |    |    |    |    |    | -[ACAccount username]
111267 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
111267 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
```

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111267 ms     |    |    |    |    |    | -[ACAccount identifier]
111267 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111267 ms     |    | -[ACAccount isActive]
111267 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111267 ms     |    | -[ACAccount isActive]
111267 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
111267 ms     |    | -[ACAccount isActive]
           /* TID 0x1251f */
111268 ms  +[NSError errorWithDomain:0x1e753a3e0 code:0x1 userInfo:0x281262e60]
111268 ms     | -[NSError initWithDomain:0x1e753a3e0 code:0x1 userInfo:0x281262e60]
           /* TID 0xf107 */
111268 ms     |    |    | -[AAURLConfiguration baaInterval]
           /* TID 0x1251f */
111281 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dea80]
           /* TID 0x103 */
111281 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28164f7e0]
111281 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dea80]
111281 ms  -[ACAccount credentialsChanged:0x28164f7e0]
111281 ms     | -[ACAccount identifier]
           /* TID 0x11c23 */
111286 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807daa00]
           /* TID 0x103 */
111287 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x2816a8640]
111287 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807daa00]
111287 ms  -[ACAccount credentialsChanged:0x2816a8640]
111287 ms     | -[ACAccount identifier]
           /* TID 0x11c23 */
111292 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dedc0]
           /* TID 0x103 */
111292 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28164f860]
111292 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dedc0]
111292 ms  -[ACAccount credentialsChanged:0x28164f860]
111292 ms     | -[ACAccount identifier]
           /* TID 0x11c23 */
111298 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c1180]
           /* TID 0x103 */
111298 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169db60]
111298 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c1180]
111298 ms  -[ACAccount credentialsChanged:0x28169db60]
111298 ms     | -[ACAccount identifier]
           /* TID 0x11c23 */
111304 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c1140]
           /* TID 0x103 */
111306 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169de60]
111306 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c1140]
111306 ms  -[ACAccount credentialsChanged:0x28169de60]
111306 ms     | -[ACAccount identifier]
111307 ms  +[NSError errorWithDomain:0x1e753a3e0 code:0x1 userInfo:0x1f13a58c8]
111307 ms     | -[NSError initWithDomain:0x1e753a3e0 code:0x1 userInfo:0x1f13a58c8]
           /* TID 0x1251f */
111310 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
```

```
Identifier:0x2807e9240]
           /* TID 0x103 */
111310 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111310 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807e9240]
111310 ms  -[ACAccount credentialsChanged:0x28169e200]
111310 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111316 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807ded00]
           /* TID 0x103 */
111316 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111316 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807ded00]
111316 ms  -[ACAccount credentialsChanged:0x28169e200]
111316 ms     | -[ACAccount identifier]
           /* TID 0xf107 */
111318 ms  +[NSError errorWithDomain:0x1e753a3e0 code:0x1 userInfo:0x28164f860]
111318 ms     | -[NSError initWithDomain:0x1e753a3e0 code:0x1 userInfo:0x28164f860]
           /* TID 0x103 */
111319 ms  +[NSError errorWithDomain:0x1e753a3e0 code:0x1 userInfo:0x28169cb60]
111319 ms     | -[NSError initWithDomain:0x1e753a3e0 code:0x1 userInfo:0x28169cb60]
           /* TID 0x1251f */
111322 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807d76c0]
           /* TID 0x103 */
111322 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169df60]
111322 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807d76c0]
111322 ms  -[ACAccount credentialsChanged:0x28169df60]
111322 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111328 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dea80]
           /* TID 0x103 */
111328 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e020]
111328 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dea80]
111328 ms  -[ACAccount credentialsChanged:0x28169e020]
111328 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111333 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c0a00]
           /* TID 0x103 */
111333 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e020]
111333 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c0a00]
111333 ms  -[ACAccount credentialsChanged:0x28169e020]
111333 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111338 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c54c0]
           /* TID 0x103 */
111338 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111338 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c54c0]
111338 ms  -[ACAccount credentialsChanged:0x28169e200]
111338 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111343 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dedc0]
           /* TID 0x103 */
```

```
111343 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111343 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dedc0]
111343 ms  -[ACAccount credentialsChanged:0x28169e200]
111343 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111348 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dab80]
           /* TID 0x103 */
111348 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111348 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dab80]
111348 ms  -[ACAccount credentialsChanged:0x28169e200]
111348 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111356 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dbec0]
           /* TID 0x103 */
111357 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111357 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dbec0]
111357 ms  -[ACAccount credentialsChanged:0x28169e200]
111357 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111362 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c0ac0]
           /* TID 0x103 */
111362 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111362 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c0ac0]
111362 ms  -[ACAccount credentialsChanged:0x28169e200]
111362 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111368 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c4000]
           /* TID 0x103 */
111368 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e020]
111368 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c4000]
111368 ms  -[ACAccount credentialsChanged:0x28169e020]
111368 ms     | -[ACAccount identifier]
           /* TID 0x1251f */
111373 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c54c0]
           /* TID 0x103 */
111373 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169e200]
111373 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c54c0]
111373 ms  -[ACAccount credentialsChanged:0x28169e200]
111373 ms     | -[ACAccount identifier]
111769 ms  -[AAUIServiceIconView didMoveToWindow]
111770 ms  -[AAUISignInViewController viewDidDisappear:0x1]
111770 ms     | -[AAUISignInViewController _endObservingSizeCategoryNotification]
111770 ms     | -[AAUISignInViewController _endObservingTextFieldDidChangeNotifications
]
111771 ms     | -[AAUISignInViewController _endObservingKeyboardWillShowNotifications]
           /* TID 0x1251f */
116376 ms  -[AAURLSession URLSession:0x104216cb0 dataTask:0x1006f4b90 didReceiveData:0x
2807c0b40]
116376 ms     | -[AAURLSession _sessionQueue_updateTask:0x1006f4b90 withData:0x2807c0b4
0]
116377 ms  -[AAURLSession URLSession:0x104216cb0 task:0x1006f4b90 didCompleteWithError:
```

```
0x0]
116377 ms     | -[AAURLSession _sessionQueue_dequeueTask:0x1006f4b90 withResponse:0x281
263500 error:0x0]
116377 ms     |    | -[AARequest _handleDataTaskCompletionWithData:0x123b14000 response
:0x281263500 error:0x0]
116379 ms     |    |    | +[AALoginAccountRequest responseClass]
116379 ms     |    |    | -[AALoginAccountResponse initWithHTTPResponse:0x281263500 dat
a:0x123b14000]
116380 ms     |    |    |    | -[AAResponse initWithHTTPResponse:0x281263500 data:0x123
b14000 bodyIsPlist:0x1]
116381 ms     |    |    |    |    | -[AAResponse _parsePlistResponse:0x123b14000]
116384 ms     |    |    |    | -[AAResponse responseDictionary]
116384 ms     |    |    |    | -[AALoginAccountResponse _parseResponse:0xc8 responseBod
y:0x2816b2020]
116384 ms     |    |    |    |    | -[AAResponse responseDictionary]
116384 ms     |    |    |    |    | -[AAResponse responseDictionary]
116384 ms     |    |    |    |    | -[AAResponse responseDictionary]
116384 ms     |    |    |    |    | -[AALoginResponseAppleAccountInfo initWithDictionar
y:0x2816591e0]
116384 ms     |    |    |    |    | -[AALoginResponseiCloudTokens initWithTokens:0x2816
59e60]
116384 ms     |    |    |    |    | -[AALoginResponseDataclasses initWithiCloudServiceD
ata:0x2816b03a0]
116385 ms     |    |    | -[AAResponse error]
116385 ms     |    |    | -[AALoginAccountResponse convertToProvisioningResponse]
116385 ms     |    |    |    | -[AALoginAccountResponse responseParametersForServiceIde
ntifier:0x1e8b3f330]
116385 ms     |    |    |    |    | -[AALoginAccountResponse responseForDelegates]
116385 ms     |    |    |    | -[AAProvisioningResponse initWithDictionary:0x2816591e0]
116385 ms     |    |    |    |    | -[AAResponse responseDictionary]
116385 ms     |    |    |    |    | -[AAResponse responseDictionary]
116385 ms     |    |    |    |    | -[AAResponse responseDictionary]
116385 ms     |    |    |    |    | -[AAResponse responseDictionary]
116385 ms     |    |    | -[AAResponse responseDictionary]
116385 ms     |    |    | -[ACAccount aa_updateWithProvisioningResponse:0x283126260]
116385 ms     |    |    |    | -[ACAccount username]
116386 ms     |    |    |    |    | -[ACAccount _useParentForCredentials]
116386 ms     |    |    |    |    |    | -[ACAccount authenticationType]
116386 ms     |    |    |    | -[ACAccount aa_needsToVerifyTerms]
116386 ms     |    |    |    |    | -[ACAccount parentAccount]
116386 ms     |    |    |    |    | -[ACAccount accountPropertyForKey:0x1e8b42ad0]
116386 ms     |    |    |    | -[ACAccount aa_suspensionInfo]
116386 ms     |    |    |    |    | -[ACAccount parentAccount]
116386 ms     |    |    |    |    | -[ACAccount accountPropertyForKey:0x1e8b3fc90]
116386 ms     |    |    |    | -[AAAuthenticationResponse altDSID]
116386 ms     |    |    |    | -[ACAccount setAccountProperty:0x2807e9640 forKey:0x1e8b
3c830]
116386 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116386 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3c830]
116386 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3c830]
116386 ms     |    |    |    | -[AAProvisioningResponse dataclassProperties]
116387 ms     |    |    |    |    | -[AAProvisioningResponse provisionedDataclasses]
116387 ms     |    |    |    | -[ACAccount _aa_setDataclassProperties:0x2816591e0]
116387 ms     |    |    |    |    | -[ACAccount setDataclassProperties:0x2816591e0]
116387 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
```

```
e9d40]
116387 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e9d40]
116387 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e8600]
116387 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e8600]
116387 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c7270]
116387 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc7270]
116387 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c9aa0]
116387 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc9aa0]
116387 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
caaf0]
116387 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281ccaaf0]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e8100]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e8100]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c9ef0]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc9ef0]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e8400]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e8400]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c7e70]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc7e70]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c9260]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc9260]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
ea3c0]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807ea3c0]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
daaf0]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cdaaf0]
116388 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
da730]
116388 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cda730]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e8a40]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e8a40]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
```

```
c8930]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc8930]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
cbae0]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281ccbae0]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e9400]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e9400]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
ca580]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cca580]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e9700]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e9700]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c9b60]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc9b60]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
cbfc0]
116389 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281ccbfc0]
116389 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e8e40]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e8e40]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
ea200]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807ea200]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c8450]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc8450]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e9e80]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e9e80]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
e4300]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281ce4300]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e9a40]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e9a40]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281d
17210]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281d17210]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
```

```
c98f0]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc98f0]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
cbc90]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281ccbc90]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
ca6a0]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cca6a0]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281d
17240]
116390 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281d17240]
116390 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
e9940]
116391 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807e9940]
116391 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
e5740]
116391 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281ce5740]
116391 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x2807
ea880]
116391 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x2807ea880]
116391 ms     |    |    |    |    |    | -[ACAccount _markDataclassPropertyDirty:0x281c
c8ba0]
116391 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markDataclassProperty
Dirty:0x281cc8ba0]
116391 ms     |    |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417
e18]
116391 ms     |    |    |    | -[AAAuthenticationResponse personID]
116391 ms     |    |    |    | -[ACAccount setAccountProperty:0x2816b08e0 forKey:0x1e8b
42670]
116391 ms     |    |    |    | -[AAProvisioningResponse firstName]
116391 ms     |    |    |    | -[ACAccount setAccountProperty:0x2816b2200 forKey:0x1e8b
3c550]
116391 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116391 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3c550]
116391 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3c550]
116391 ms     |    |    |    | -[AAProvisioningResponse lastName]
116391 ms     |    |    |    | -[ACAccount setAccountProperty:0x2816b03c0 forKey:0x1e8b
3c570]
116391 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116391 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3c570]
116391 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3c570]
116392 ms     |    |    |    | -[AAProvisioningResponse primaryEmail]
116392 ms     |    |    |    | -[ACAccount setAccountProperty:0x281cc7ab0 forKey:0x1e8b
3f5f0]
116392 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116392 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f5f0]
116392 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
```

```
x1e8b3f5f0]
116392 ms     |    |    |    | -[AAProvisioningResponse primaryEmailVerified]
116392 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189af8 forKey:0x1e8b
3f610]
116392 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116392 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f610]
116392 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f610]
116392 ms     |    |    |    | -[AAProvisioningResponse appleIDAliases]
116392 ms     |    |    |    | -[ACAccount setAccountProperty:0x281cdafa0 forKey:0x1e8b
42710]
116392 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116392 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b42710]
116392 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b42710]
116392 ms     |    |    |    | -[AAResponse protocolVersion]
116392 ms     |    |    |    | -[ACAccount setAccountProperty:0xb43ecf8729c4e1d3 forKey
:0x1e8b3c650]
116392 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116392 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3c650]
116393 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3c650]
116393 ms     |    |    |    | -[AAProvisioningResponse appleID]
116393 ms     |    |    |    | -[ACAccount setAccountProperty:0x281cc7ab0 forKey:0x1e8b
3f630]
116393 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116393 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f630]
116393 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f630]
116393 ms     |    |    |    | -[AAProvisioningResponse regionInfo]
116393 ms     |    |    |    | -[ACAccount setAccountProperty:0x2816b1fe0 forKey:0x1e8b
3f750]
116393 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116393 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f750]
116393 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f750]
116393 ms     |    |    |    | -[AAProvisioningResponse isManagedAppleID]
116393 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189b10 forKey:0x1e8b
3f670]
116393 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116393 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f670]
116393 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f670]
116393 ms     |    |    |    | -[AAProvisioningResponse isNotesMigrated]
116393 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189af8 forKey:0x1e8b
3f690]
116393 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116393 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f690]
116393 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f690]
116394 ms     |    |    |    | -[AAProvisioningResponse isRemindersMigrated]
116394 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189b10 forKey:0x1e8b
42b90]
116394 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116394 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b42b90]
116394 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
```

```
x1e8b42b90]
116394 ms     |    |    |    | -[AAProvisioningResponse isRemindersAutoMigratableToCK]
116394 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189b10 forKey:0x1e8b
42bb0]
116394 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116394 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b42bb0]
116394 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b42bb0]
116394 ms     |    |    |    | -[AAProvisioningResponse isSandboxAccount]
116394 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189b10 forKey:0x1e8b
3f6f0]
116394 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116394 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f6f0]
116394 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f6f0]
116394 ms     |    |    |    | -[AAProvisioningResponse isCloudDocsMigrated]
116394 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189af8 forKey:0x1e8b
42b50]
116394 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116394 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b42b50]
116394 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b42b50]
116394 ms     |    |    |    | -[AAProvisioningResponse isCloudDocsMigrated]
116394 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189af8 forKey:0x1e8b
42b10]
116394 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116395 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b42b10]
116395 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b42b10]
116395 ms     |    |    |    | -[AAProvisioningResponse hasOptionalTerms]
116395 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189b10 forKey:0x1e8b
3f730]
116395 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116395 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f730]
116395 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f730]
116395 ms     |    |    |    | -[AAProvisioningResponse isFamilyEligible]
116395 ms     |    |    |    | -[ACAccount setAccountProperty:0x1f6189af8 forKey:0x1e8b
3f790]
116395 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417df8]
116395 ms     |    |    |    |    | -[ACAccount _markAccountPropertyDirty:0x1e8b3f790]
116395 ms     |    |    |    |    |    | -[ACAccount _unsafe_markAccountPropertyDirty:0
x1e8b3f790]
116395 ms     |    |    |    | -[AAProvisioningResponse provisionedDataclasses]
116395 ms     |    |    |    | +[AADataclassManager sharedManager]
116395 ms     |    |    |    |    | -[AADataclassManager init]
116395 ms     |    |    |    |    |    | -[ACAccountStore init]
116396 ms     |    |    |    |    |    |    | -[ACAccountStore initWithRemoteEndpoint:0
x0 effectiveBundleID:0x0]
116396 ms     |    |    |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:
0x1e]
116396 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer init]
116396 ms     |    |    |    |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:
0x1e]
116396 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer init]
116396 ms     |    |    |    |    |    |    |    | +[ACNotificationRebroadcaster shared
```

```
Rebroadcaster]
116396 ms     |    |    |    | -[AADataclassManager filteredServerProvidedFeatures:0x10
4013130 forAccount:0x282b408c0]
116396 ms     |    |    |    |    | -[ACAccount aa_accountClass]
116396 ms     |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8b42c1
0]
116396 ms     |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x1e8b4
2c10]
116396 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x280
7e9d40 forAccount:0x282b408c0]
116396 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116396 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x2807e9d40]
116397 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x2807e9d40]
116397 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116397 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x2807e9d40]
116397 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116397 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116397 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116397 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116397 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x280
7e8600 forAccount:0x282b408c0]
116397 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116397 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x2807e8600]
116397 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x2807e8600]
116397 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116397 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x2807e8600]
116397 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116397 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116397 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116397 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116397 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
cc7270 forAccount:0x282b408c0]
116397 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116397 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281cc7270]
116397 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cc7270]
116400 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116400 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281cc7270]
116400 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116400 ms     |    |    |    |    |    |    | -[NSError initWithDomain:0x1f61f0180 code
:0xffffffffffffd5c2 userInfo:0x2816bf080]
```

```
116400 ms     |    |    |    |    |    |    | -[NSError initWithDomain:0x1f61f0180 code
:0xffffffffffffd5c2 userInfo:0x2816bf080]
116401 ms     |    |    |    |    |    |    | -[NSError initWithDomain:0x1f61f0180 code
:0xffffffffffffd5c2 userInfo:0x2816bf080]
116402 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
cc9aa0 forAccount:0x282b408c0]
116402 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116402 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281cc9aa0]
116402 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cc9aa0]
116402 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116402 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281cc9aa0]
116402 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116402 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116402 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116403 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116403 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
ccaaf0 forAccount:0x282b408c0]
116403 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116403 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281ccaaf0]
116403 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281ccaaf0]
116403 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116403 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281ccaaf0]
116403 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116405 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116406 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116406 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116406 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x280
7e8100 forAccount:0x282b408c0]
116406 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116406 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x2807e8100]
116406 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x2807e8100]
116406 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116406 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x2807e8100]
116406 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116406 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116406 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116406 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116406 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
```

```
cc9ef0 forAccount:0x282b408c0]
116406 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116406 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281cc9ef0]
116406 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cc9ef0]
116406 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116406 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281cc9ef0]
116406 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116406 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116406 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116406 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116406 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x280
7e8400 forAccount:0x282b408c0]
116406 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116406 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x2807e8400]
116406 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x2807e8400]
116406 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116406 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x2807e8400]
116406 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116406 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116406 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116406 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116406 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
cc7e70 forAccount:0x282b408c0]
116406 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116406 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281cc7e70]
116406 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cc7e70]
116407 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116407 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281cc7e70]
116407 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116408 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116408 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116408 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116408 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x1e7
416ab8 forAccount:0x282b408c0]
116408 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116408 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x1e7416ab8]
116408 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
```

```
class:0x1e7416ab8]
116408 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116408 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x1e7416ab8]
116408 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116408 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116408 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116408 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116408 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
cc9260 forAccount:0x282b408c0]
116408 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116408 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281cc9260]
116408 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cc9260]
116408 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116408 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281cc9260]
116408 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116409 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116409 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116409 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116409 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x280
7ea3c0 forAccount:0x282b408c0]
116409 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116409 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x2807ea3c0]
116409 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x2807ea3c0]
116409 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116409 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x2807ea3c0]
116409 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116409 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116409 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116409 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116409 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
cdaaf0 forAccount:0x282b408c0]
116409 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116409 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281cdaaf0]
116409 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cdaaf0]
116409 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116409 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281cdaaf0]
116409 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
```

```
fierDictionary]
116410 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116410 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116410 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116410 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
cda730 forAccount:0x282b408c0]
116410 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116410 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x281cda730]
116410 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cda730]
116410 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116410 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x281cda730]
116410 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116412 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116412 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116412 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116412 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x280
7e8a40 forAccount:0x282b408c0]
116412 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116412 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
movedForDataclass:0x2807e8a40]
116412 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x2807e8a40]
116412 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116412 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x2807e8a40]
116412 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116412 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116412 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116412 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
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116412 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
cc8930 forAccount:0x282b408c0]
116412 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116412 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
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116412 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
class:0x281cc8930]
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116412 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116412 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116412 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116412 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
```

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1e8b42c10]
116412 ms     |    |    |    |    | -[AADataclassManager shouldProvisionDataclass:0x281
ccbae0 forAccount:0x282b408c0]
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116413 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
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116415 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
116415 ms     |    |    |    |    |    | -[AADataclassManager isSystemAppRestrictedOrRe
```

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116415 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116416 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116416 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
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orDataclass:0x281cc9b60]
116416 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
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116416 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
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116417 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116417 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116417 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
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116417 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
```

```
orDataclass:0x2807e8e40]
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b42c10]
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116417 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116417 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116417 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
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116417 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
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116417 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116417 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
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116418 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
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116418 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
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```

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b42c10]
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116418 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116418 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
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116418 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
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b42c10]
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b42c10]
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```

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b42c10]
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116421 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
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116421 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
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116421 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
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116421 ms     |    |    |    |    |    | +[AADataclassManager sharedManager]
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movedForDataclass:0x2807e9940]
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```

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116421 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
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116421 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
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b42c10]
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116421 ms     |    |    |    |    |    |    | -[AADataclassManager _isRestrictedForData
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116421 ms     |    |    |    |    |    |    | +[AADataclassManager sharedManager]
116421 ms     |    |    |    |    |    |    | -[AADataclassManager appBundleIdentifierF
orDataclass:0x2807ea880]
116421 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
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116421 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
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b42c10]
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1e8b42c10]
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movedForDataclass:0x281cc8ba0]
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orDataclass:0x281cc8ba0]
116421 ms     |    |    |    |    |    |    |    | +[AADataclassManager appBundleIdenti
fierDictionary]
116421 ms     |    |    |    |    |    | -[ACAccount aa_accountClass]
116421 ms     |    |    |    |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8
b42c10]
116421 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertyForKey:0x
1e8b42c10]
116421 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e9d40]
116421 ms     |    |    |    |    | -[ACAccount accountStore]
116421 ms     |    |    |    |    |    | +[ACAccountStore defaultStore]
116421 ms     |    |    |    |    | -[ACAccountStore provisionedDataclassesForAccount:0
x282b408c0 error:0x170482160]
116421 ms     |    |    |    |    |    | -[ACAccount description]
116421 ms     |    |    |    |    |    |    | -[ACAccount username]
116421 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116421 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116422 ms     |    |    |    |    |    |    | -[ACAccount identifier]
116422 ms     |    |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
```

```
116422 ms     |    |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x170
481f00]
116422 ms     |    |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
116422 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemot
eObjectProxyWithErrorHandler:0x170481ee0]
116422 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection
]
116422 ms     |    |    |    |    |    | -[ACAccount identifier]
116423 ms     |    |    |    |    | -[ACTrackedSet init]
116423 ms     |    |    |    |    |    | -[ACTrackedSet initWithObjects:0x0 count:0x0]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e9d40]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e8600]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e8600]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc9aa0]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc9aa0]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281ccaaf0]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281ccaaf0]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e8400]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e8400]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc9ef0]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc9ef0]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc7e70]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc7e70]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e8100]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e8100]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x1e7416ab8]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x1e7416ab8]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc9260]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc9260]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807ea3c0]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807ea3c0]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cdaaf0]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cdaaf0]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cda730]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cda730]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e8a40]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e8a40]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc8930]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc8930]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281ccbae0]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281ccbae0]
```

```
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e9400]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e9400]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cca580]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cca580]
116423 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116423 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e9700]
116423 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e9700]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc9b60]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc9b60]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281ccbfc0]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281ccbfc0]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807ea200]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807ea200]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e8e40]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e8e40]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc8450]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc8450]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e9e80]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e9e80]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e9a40]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e9a40]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281d17210]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281d17210]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc98f0]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc98f0]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281ccbc90]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281ccbc90]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cca6a0]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cca6a0]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281ce5740]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281ce5740]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807e9940]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807e9940]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x2807ea880]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x2807ea880]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount setProvisioned:0x1 forDataclass:0x281cc8ba0]
116424 ms     |    |    |    |    | -[ACMutableTrackedSet addObject:0x281cc8ba0]
116424 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417dd8]
116424 ms     |    |    |    | -[ACAccount enabledDataclasses]
```

```
116424 ms     |    |    |    |    | -[ACAccount parentAccount]
116424 ms     |    |    |    |    | -[ACAccount accountStore]
116424 ms     |    |    |    |    |    | +[ACAccountStore defaultStore]
116424 ms     |    |    |    |    | -[ACAccountStore enabledDataclassesForAccount:0x282
b408c0 error:0x170482198]
116424 ms     |    |    |    |    |    | -[ACAccount description]
116424 ms     |    |    |    |    |    |    | -[ACAccount username]
116424 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116424 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116424 ms     |    |    |    |    |    |    | -[ACAccount identifier]
116424 ms     |    |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
116424 ms     |    |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x170
481f30]
116424 ms     |    |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
116424 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemot
eObjectProxyWithErrorHandler:0x170481f10]
116424 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection
]
116424 ms     |    |    |    |    |    | -[ACAccount identifier]
116425 ms     |    |    |    | -[ACAccount provisionedDataclasses]
116425 ms     |    |    |    |    | -[ACAccount parentAccount]
116425 ms     |    |    |    | -[ACAccount aa_updateTokensWithProvisioningResponse:0x28
3126260]
116425 ms     |    |    |    |    | -[AAAuthenticationResponse authToken]
116425 ms     |    |    |    |    | -[ACAccount aa_setAuthToken:0x282b2d960]
116425 ms     |    |    |    |    |    | -[ACAccount credential]
116425 ms     |    |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116425 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116425 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116425 ms     |    |    |    |    |    | -[ACAccountCredential token]
116425 ms     |    |    |    |    |    |    | -[ACAccountCredential credentialItemForKe
y:0x1e74190b8]
116425 ms     |    |    |    |    |    | -[ACAccount credential]
116425 ms     |    |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116425 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116425 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116425 ms     |    |    |    |    |    | -[ACAccount credential]
116425 ms     |    |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116425 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116425 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116425 ms     |    |    |    |    |    | -[ACAccountCredential setToken:0x282b2d960]
116425 ms     |    |    |    |    |    |    | -[ACAccountCredential setCredentialItem:0
x282b2d960 forKey:0x1e74190b8]
116425 ms     |    |    |    |    |    |    |    | -[ACZeroingString initWithString:0x2
82b2d960]
116425 ms     |    |    |    |    |    |    |    | -[ACAccountCredential _markPropertyD
irty:0x1e7419578]
116425 ms     |    |    |    |    |    |    |    |    | -[ACAccount _markCredentialDirt
y]
116425 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _markPropertyD
irty:0x1e7417d98]
116425 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_m
```

```
arkPropertyDirty:0x1e7417d98]
116426 ms     |    |    |    |    |    | -[ACAccount setAuthenticated:0x1]
116426 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1
e7417d78]
116426 ms     |    |    |    |    |    |    | -[ACAccount setLastCredentialRenewalRejec
tionDate:0x0]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropertyDirt
y:0x1e7417ed8]
116426 ms     |    |    |    |    | -[AAAuthenticationResponse mapsToken]
116426 ms     |    |    |    |    | -[ACAccount aa_setMapsToken:0x282b2da40]
116426 ms     |    |    |    |    |    | -[ACAccount credential]
116426 ms     |    |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    |    | -[ACAccountCredential mapsToken]
116426 ms     |    |    |    |    |    |    | -[ACAccountCredential credentialItemForKe
y:0x1e7419278]
116426 ms     |    |    |    |    |    | -[ACAccount credential]
116426 ms     |    |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    |    | -[ACAccount credential]
116426 ms     |    |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _useParentForCredentials
]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    |    | -[ACAccountCredential setMapsToken:0x282b2da40
]
116426 ms     |    |    |    |    |    |    | -[ACAccountCredential setCredentialItem:0
x282b2da40 forKey:0x1e7419278]
116426 ms     |    |    |    |    |    |    |    | -[ACZeroingString initWithString:0x2
82b2da40]
116426 ms     |    |    |    |    |    |    |    | -[ACAccountCredential _markPropertyD
irty:0x1e7419578]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount _markCredentialDirt
y]
116426 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _markPropertyD
irty:0x1e7417d98]
116426 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_m
arkPropertyDirty:0x1e7417d98]
116426 ms     |    |    |    |    | -[AAAuthenticationResponse mdmServerToken]
116426 ms     |    |    |    |    | -[AAProvisioningResponse searchPartyToken]
116426 ms     |    |    |    |    | -[ACAccount credential]
116426 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116426 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b2d340
 forKey:0x1e74193f8]
116426 ms     |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2d340]
```

```
116426 ms     |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:0x1e7
419578]
116426 ms     |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:0x1e7
417d98]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
116426 ms     |    |    |    |    | -[AAProvisioningResponse keyTransparencyToken]
116426 ms     |    |    |    |    | -[ACAccount credential]
116426 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116426 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b2c9a0
 forKey:0x1e7419418]
116426 ms     |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2c9a0]
116426 ms     |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:0x1e7
419578]
116426 ms     |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:0x1e7
417d98]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
116426 ms     |    |    |    |    | -[AAAuthenticationResponse cloudKitToken]
116426 ms     |    |    |    |    | -[ACAccount credential]
116426 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116426 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116426 ms     |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b2df80
 forKey:0x1e7419318]
116426 ms     |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2df80]
116426 ms     |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:0x1e7
419578]
116426 ms     |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116426 ms     |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:0x1e7
417d98]
116426 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
116426 ms     |    |    |    |    | -[ACAccount aa_cloudKitAccount]
116426 ms     |    |    |    |    |    | -[ACAccount childAccountsWithAccountTypeIdenti
fier:0x1e7418a58]
116426 ms     |    |    |    |    |    |    | -[ACAccount accountStore]
116426 ms     |    |    |    |    |    |    |    | +[ACAccountStore defaultStore]
116426 ms     |    |    |    |    |    |    | -[ACAccountStore childAccountsForAccount:
0x282b408c0 withTypeIdentifier:0x1e7418a58]
116427 ms     |    |    |    |    |    |    |    | -[ACAccount description]
116427 ms     |    |    |    |    |    |    |    |    | -[ACAccount username]
116427 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _useParentForC
redentials]
116427 ms     |    |    |    |    |    |    |    |    |    |    | -[ACAccount authentic
ationType]
116427 ms     |    |    |    |    |    |    |    |    | -[ACAccount identifier]
116427 ms     |    |    |    |    |    |    |    | -[ACAccountStore remoteAccountStoreS
ession]
116427 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer scheduleExpira
tion:0x170481d00]
116427 ms     |    |    |    |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCa
```

```
ncelTimer]
116427 ms     |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession synchr
onousRemoteObjectProxyWithErrorHandler:0x170481ce0]
116427 ms     |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _
connection]
116427 ms     |    |    |    |    |    |    |    | -[ACAccount identifier]
116427 ms     |    |    |    |    | -[ACAccount username]
116427 ms     |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116427 ms     |    |    |    |    |    |    | -[ACAccount authenticationType]
116427 ms     |    |    |    |    | +[AAKeychainManager initialize]
116432 ms     |    |    |    |    | +[AAKeychainManager setPassword:0x282b2df80 forServ
iceName:0x1e8b42d10 username:0x281d07cc0 accessGroup:0x1e8b42d30]
116432 ms     |    |    |    |    |    | +[AAKeychainManager passwordForServiceName:0x1
e8b42d10 username:0x281d07cc0 accessGroup:0x1e8b42d30]
116440 ms     |    |    |    |    | -[AAAuthenticationResponse fmipToken]
116440 ms     |    |    |    |    | -[ACAccount credential]
116440 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116440 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116440 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116440 ms     |    |    |    |    | -[ACAccountCredential setFindMyiPhoneToken:0x282b2d
b20]
116440 ms     |    |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b
2db20 forKey:0x1e7419218]
116440 ms     |    |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2d
b20]
116440 ms     |    |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:
0x1e7419578]
116440 ms     |    |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116440 ms     |    |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:
0x1e7417d98]
116440 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPr
opertyDirty:0x1e7417d98]
116440 ms     |    |    |    |    | -[AAProvisioningResponse fmipAppToken]
116440 ms     |    |    |    |    | -[ACAccount credential]
116440 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116440 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116440 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116440 ms     |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b2dce0
 forKey:0x1e7419238]
116440 ms     |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2dce0]
116440 ms     |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:0x1e7
419578]
116440 ms     |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116440 ms     |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:0x1e7
417d98]
116440 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
116440 ms     |    |    |    |    | -[AAProvisioningResponse fmipSiriToken]
116440 ms     |    |    |    |    | -[ACAccount credential]
116440 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116440 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116440 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116440 ms     |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b2dea0
 forKey:0x1e7419258]
116440 ms     |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2dea0]
116441 ms     |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:0x1e7
```

```
419578]
116441 ms     |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:0x1e7
417d98]
116441 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
116441 ms     |    |    |    |    | -[AAAuthenticationResponse fmfToken]
116441 ms     |    |    |    |    | -[ACAccount credential]
116441 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116441 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116441 ms     |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b2d880
 forKey:0x1e74192b8]
116441 ms     |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2d880]
116441 ms     |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:0x1e7
419578]
116441 ms     |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:0x1e7
417d98]
116441 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
116441 ms     |    |    |    |    | -[AAAuthenticationResponse fmfAppToken]
116441 ms     |    |    |    |    | -[ACAccount credential]
116441 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116441 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116441 ms     |    |    |    |    | -[ACAccountCredential setCredentialItem:0x282b2e680
 forKey:0x1e74192d8]
116441 ms     |    |    |    |    |    | -[ACZeroingString initWithString:0x282b2e680]
116441 ms     |    |    |    |    |    | -[ACAccountCredential _markPropertyDirty:0x1e7
419578]
116441 ms     |    |    |    |    |    |    | -[ACAccount _markCredentialDirty]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount _markPropertyDirty:0x1e7
417d98]
116441 ms     |    |    |    |    |    |    |    |    | -[ACAccount _unsafe_markPropert
yDirty:0x1e7417d98]
116441 ms     |    |    | -[AASignInFlowController _verifyLoginResponseForiCloudAccount
:0x282b408c0 withSuccess:0x1 error:0x0 completion:0x2807d6400]
116441 ms     |    |    |    | -[ACAccount aa_password]
116441 ms     |    |    |    |    | -[ACAccount credential]
116441 ms     |    |    |    |    |    | -[ACAccount credentialWithError:0x0]
116441 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
116441 ms     |    |    |    |    | -[ACAccountCredential password]
116441 ms     |    |    |    |    |    | -[ACAccountCredential credentialItemForKey:0x1
e7419098]
116441 ms     |    |    |    |    |    |    | -[ACZeroingString length]
116441 ms     |    |    |    |    |    |    | -[ACZeroingString getCharacters:0x120370c
70 range:0x0]
116441 ms     |    |    |    | -[ACAccount setAuthenticated:0x0]
116441 ms     |    |    |    |    | -[ACAccount _useParentForCredentials]
116441 ms     |    |    |    |    |    | -[ACAccount authenticationType]
116441 ms     |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417d78]
116441 ms     |    |    |    | -[AASignInFlowController _validateAndEnrollCDPStateForAc
count:0x282b408c0 withCDPContext:0x282558580 completion:0x1704823b8]
116441 ms     |    |    |    |    | -[ACAccount setWarmingUp:0x1]
```

```
116441 ms     |    |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417
eb8]
116441 ms     |    |    |    |    | -[ACAccount setEnabled:0x1 forDataclass:0x1e7416758
]
116441 ms     |    |    |    |    |    | -[ACAccount parentAccount]
116441 ms     |    |    |    |    |    | -[ACAccount accountStore]
116441 ms     |    |    |    |    |    |    | +[ACAccountStore defaultStore]
116441 ms     |    |    |    |    |    | -[ACAccountStore enabledDataclassesForAccount:
0x282b408c0 error:0x170482220]
116441 ms     |    |    |    |    |    |    | -[ACAccount description]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount username]
116441 ms     |    |    |    |    |    |    |    |    | -[ACAccount _useParentForCreden
tials]
116441 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount authentication
Type]
116441 ms     |    |    |    |    |    |    |    | -[ACAccount identifier]
116441 ms     |    |    |    |    |    |    | -[ACAccountStore remoteAccountStoreSessio
n]
116441 ms     |    |    |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:
0x170481fc0]
116441 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelT
imer]
116441 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession synchronous
RemoteObjectProxyWithErrorHandler:0x170481fa0]
116441 ms     |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _conne
ction]
116441 ms     |    |    |    |    |    |    | -[ACAccount identifier]
116442 ms     |    |    |    |    |    | -[ACTrackedSet init]
116442 ms     |    |    |    |    |    |    | -[ACTrackedSet initWithObjects:0x0 count:
0x0]
116442 ms     |    |    |    |    |    | -[ACMutableTrackedSet addObject:0x1e7416758]
116442 ms     |    |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417
db8]
116442 ms     |    |    |    |    | -[ACAccount isProvisionedForDataclass:0x1e7416798]
116442 ms     |    |    |    |    |    | -[ACAccount provisionedDataclasses]
116442 ms     |    |    |    |    |    |    | -[ACAccount parentAccount]
116442 ms     |    |    |    |    | -[ACAccount setEnabled:0x1 forDataclass:0x1e7416798
]
116442 ms     |    |    |    |    |    | -[ACAccount parentAccount]
116442 ms     |    |    |    |    |    | -[ACMutableTrackedSet addObject:0x1e7416798]
116442 ms     |    |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417
db8]
116442 ms     |    |    |    |    | -[ACAccount setEnabled:0x1 forDataclass:0x1e74167b8
]
116442 ms     |    |    |    |    |    | -[ACAccount parentAccount]
116442 ms     |    |    |    |    |    | -[ACMutableTrackedSet addObject:0x1e74167b8]
116442 ms     |    |    |    |    |    | -[ACAccount _unsafe_markPropertyDirty:0x1e7417
db8]
116442 ms     |    |    |    |    | -[ACAccountStore saveAccount:0x282b408c0 withComple
tionHandler:0x1704822a0]
116442 ms     |    |    |    |    |    | -[ACAccountStore _saveAccount:0x282b408c0 veri
fy:0x1 dataclassActions:0x0 completion:0x1704822a0]
116442 ms     |    |    |    |    |    |    | -[ACAccount accountType]
116442 ms     |    |    |    |    |    |    | -[ACAccountType identifier]
116442 ms     |    |    |    |    |    |    | -[ACAccount description]
116442 ms     |    |    |    |    |    |    |    | -[ACAccount username]
```

```
116442 ms     |    |    |    |    |    |    |    |    | -[ACAccount _useParentForCreden
tials]
116442 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount authentication
Type]
116442 ms     |    |    |    |    |    |    |    | -[ACAccount identifier]
116442 ms     |    |    |    |    |    |    | -[ACAccount description]
116442 ms     |    |    |    |    |    |    |    | -[ACAccount username]
116442 ms     |    |    |    |    |    |    |    |    | -[ACAccount _useParentForCreden
tials]
116442 ms     |    |    |    |    |    |    |    |    |    | -[ACAccount authentication
Type]
116442 ms     |    |    |    |    |    |    |    | -[ACAccount identifier]
116442 ms     |    |    |    |    |    |    | -[ACAccount isDirty]
116442 ms     |    |    |    |    |    |    | -[ACAccount accountType]
116442 ms     |    |    |    |    |    |    | -[ACAccountType identifier]
116442 ms     |    |    |    |    |    |    | -[ACAccountStore _checkSaveRateLimitForAc
countType:0x281d76580]
116442 ms     |    |    |    |    |    |    | -[ACAccountStore longLivedRemoteAccountSt
oreSession]
116442 ms     |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession initWi
thListenerEndpoint:0x0 delegate:0x0]
116442 ms     |    |    |    |    |    |    |    |    | -[ACAccountStoreClientSideListe
ner initWithDelegate:0x0]
116442 ms     |    |    |    |    |    |    |    | -[ACAccountStore effectiveBundleID]
116442 ms     |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession setEff
ectiveBundleID:0x0]
116442 ms     |    |    |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:
0x170482030]
116442 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelT
imer]
116442 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession remoteObjec
tProxyWithErrorHandler:0x170482010]
116442 ms     |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _conne
ction]
116442 ms     |    |    |    |    |    |    |    |    | -[ACTrackedXPCConnection init]
116442 ms     |    |    |    |    |    |    |    |    | +[ACRemoteAccountStoreInterface
 XPCInterface]
116443 ms     |    |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _
locked_configureRemoteAccountStoreWithConnection:0x282341900]
116443 ms     |    |    |    |    |    |    | -[ACAccount encodeWithCoder:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACAccountType encodeWithCoder:0x10
1a84800]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType identifier]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType accountTypeDesc
ription]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType objectID]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType visibility]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType credentialProte
ctionPolicy]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType supportsAuthent
ication]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType supportsMultipl
eAccounts]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType owningBundleID]
116443 ms     |    |    |    |    |    |    |    |    | -[ACAccountType isObsolete]
116443 ms     |    |    |    |    |    |    |    | -[ACAccountCredential encodeWithCode
```

```
r:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116443 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
```

```
jectForCoder:0x101a84800]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString replacementOb
jectForCoder:0x101a84800]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString _allowsDirect
Encoding]
116444 ms     |    |    |    |    |    |    |    |    | -[ACZeroingString encodeWithCod
er:0x101a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACAccount accountProperties]
116444 ms     |    |    |    |    |    |    |    | -[ACAccount accountPropertiesTransfo
rmer]
116444 ms     |    |    |    |    |    |    |    | -[ACTrackedSet encodeWithCoder:0x101
a84800]
116444 ms     |    |    |    |    |    |    |    | -[ACTrackedSet encodeWithCoder:0x101
a84800]
           /* TID 0xf107 */
118692 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
118692 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
118692 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
118692 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
118692 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
           /* TID 0x103 */
118692 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d109f0]
118692 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283c277
80 completion:0x16fd69d98]
118692 ms     | -[ACAccountStore remoteAccountStoreSession]
118692 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
118692 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118692 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
118692 ms     |    | -[ACRemoteAccountStoreSession _connection]
118693 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x281696a20]
118693 ms     | +[AMSLogConfig sharedAccountsConfig]
118693 ms     | -[AMSLogConfig OSLogObject]
118693 ms     |    | -[AMSLogConfig propertyAccessQueue]
118693 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0xf107 */
118693 ms     |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118693 ms     |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c64c
0]
118693 ms     |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xc533 */
118693 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
118693 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
118693 ms     | -[ACAccountStore aa_primaryAppleAccount]
```

```
118693 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x2810094b0 pr
eloadedProperties:0x0 error:0x0]
118693 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118693 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e410]
118693 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118693 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x16fe7e3f0]
118693 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xf107 */
118693 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1701c64a0]
118693 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
118694 ms  +[ACAccountStore ams_sharedAccountStoreForMediaType:0x1e77eaeb0]
118694 ms     | +[AMSUnitTests isRunningUnitTests]
118694 ms     | +[ACAccountStore defaultStore]
           /* TID 0xf107 */
118694 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
           /* TID 0xc533 */
118694 ms  -[ACAccountStore ams_activeiTunesAccount]
           /* TID 0xf107 */
118694 ms     |    |    |    |    | -[ACAccountType description]
118694 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118694 ms     |    |    |    |    |    | -[ACAccountType identifier]
118694 ms     |    | -[ACAccountStore accountsWithAccountType:0x2839f4e00]
           /* TID 0xc533 */
118694 ms     | -[ACAccountStore ams_mediaType]
           /* TID 0xf107 */
118694 ms     |    |    | -[ACAccountType description]
118694 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118694 ms     |    |    |    | -[ACAccountType identifier]
118694 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118694 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c6470]
118694 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118694 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1701c6450]
118694 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
118695 ms     |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118695 ms     |    |    | +[AMSAccountStoreCache cacheAccessQueue]
           /* TID 0xf107 */
118695 ms     |    |    | -[ACAccountType encodeWithCoder:0x101a84800]
118695 ms     |    |    |    | -[ACAccountType identifier]
118695 ms     |    |    |    | -[ACAccountType accountTypeDescription]
           /* TID 0xc533 */
118695 ms     |    |    | +[AMSAccountStoreCache cache]
118695 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
           /* TID 0xf107 */
118695 ms     |    |    |    | -[ACAccountType objectID]
118695 ms     |    |    |    | -[ACAccountType visibility]
           /* TID 0xc533 */
118695 ms     |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
           /* TID 0xf107 */
118695 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
           /* TID 0xc533 */
118695 ms     |    |    |    | +[AMSUnitTests isRunningUnitTests]
```

```
118695 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
118695 ms     | -[ACAccountStore ams_iTunesAccounts]
118695 ms     |    | -[ACAccountStore ams_mediaType]
118695 ms     |    |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118695 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118695 ms     |    |    |    | +[AMSAccountStoreCache cache]
118695 ms     |    |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
           /* TID 0xf107 */
118695 ms     |    |    |    | -[ACAccountType supportsAuthentication]
           /* TID 0xc533 */
118695 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
118695 ms     |    |    |    |    | +[AMSUnitTests isRunningUnitTests]
           /* TID 0xf107 */
118695 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
118695 ms     |    |    |    | -[ACAccountType owningBundleID]
           /* TID 0xc533 */
118695 ms     |    |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
           /* TID 0xf107 */
118695 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0xc533 */
118695 ms     |    | +[ACAccountStore ams_accountTypeIdentifierForMediaType:0x1e77eaeb0
]
118695 ms     |    | -[ACAccountStore _ams_accountsWithAccountTypeIdentifier:0x1e741887
8 options:0x1 error:0x16fe7e5c8]
118695 ms     |    |    | -[ACAccountStore _ams_accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e5c8]
118695 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e4e8]
118695 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118695 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e28
0]
118695 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118695 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e260]
118695 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118696 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118697 ms     |    |    |    |    | -[ACAccountType description]
118697 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118697 ms     |    |    |    |    |    | -[ACAccountType identifier]
118697 ms     |    |    | -[ACAccountStore _ams_accountsWithAccountType:0x283928310 opt
ions:0x1 error:0x16fe7e5c8]
118697 ms     |    |    |    | -[ACAccountStore accountsWithAccountType:0x283928310 opt
ions:0x1 error:0x16fe7e548]
118697 ms     |    |    |    |    | -[ACAccountType description]
118697 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118697 ms     |    |    |    |    |    | -[ACAccountType identifier]
118697 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118697 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e21
0]
118697 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118697 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e1f0]
118697 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118697 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x101069e00]
118697 ms     |    |    |    |    |    | -[ACAccountType identifier]
118697 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
```

```
118697 ms     |    |    |    |    |    | -[ACAccountType objectID]
118697 ms     |    |    |    |    |    | -[ACAccountType visibility]
118697 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
118697 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
118697 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
118697 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
118697 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
118700 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118701 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118701 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118701 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118701 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118701 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118701 ms     |    |    |    |    | -[ACAccount description]
118701 ms     |    |    |    |    |    | -[ACAccount username]
118701 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118701 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118701 ms     |    |    |    |    |    | -[ACAccount identifier]
118701 ms     |    |    |    |    | -[ACAccount description]
118701 ms     |    |    |    |    |    | -[ACAccount username]
118701 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118701 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118701 ms     |    |    |    |    |    | -[ACAccount identifier]
118701 ms     |    |    |    |    | -[ACAccount description]
118701 ms     |    |    |    |    |    | -[ACAccount username]
118701 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118701 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118701 ms     |    |    |    |    |    | -[ACAccount identifier]
118701 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118701 ms     |    | -[ACAccount isActive]
118701 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118701 ms     |    | -[ACAccount isActive]
118701 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118701 ms     |    | -[ACAccount isActive]
           /* TID 0xf107 */
118705 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807daac0]
118708 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c0b80]
           /* TID 0x103 */
118709 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x281697420]
118709 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807daac0]
118709 ms  -[ACAccount credentialsChanged:0x281697420]
118709 ms     | -[ACAccount identifier]
118709 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x281697420]
118709 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c0b80]
118709 ms  -[ACAccount credentialsChanged:0x281697420]
118709 ms     | -[ACAccount identifier]
           /* TID 0xf107 */
118721 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
           /* TID 0x103 */
118721 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d27c30]
118722 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283c2b4
00 completion:0x16fd69d98]
118722 ms     | -[ACAccountStore remoteAccountStoreSession]
118722 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
```

```
118722 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118722 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
118722 ms     |    | -[ACRemoteAccountStoreSession _connection]
118722 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x281696260]
118722 ms     | +[AMSLogConfig sharedAccountsConfig]
118722 ms     | -[AMSLogConfig OSLogObject]
118722 ms     |    | -[AMSLogConfig propertyAccessQueue]
118722 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0xf107 */
118724 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
118724 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
118724 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
118724 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
118724 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118724 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c64c
0]
118724 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xec47 */
118724 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
118724 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
118724 ms     | -[ACAccountStore aa_primaryAppleAccount]
118724 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x281008fb0 pr
eloadedProperties:0x0 error:0x0]
118724 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
           /* TID 0xf107 */
118724 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1701c64a0]
           /* TID 0xec47 */
118724 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x17059a410]
118724 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xf107 */
118724 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xec47 */
118724 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x17059a3f0]
118724 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xf107 */
118725 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118725 ms     |    |    |    |    | -[ACAccountType description]
118725 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118725 ms     |    |    |    |    |    | -[ACAccountType identifier]
118725 ms     |    | -[ACAccountStore accountsWithAccountType:0x2839220d0]
118725 ms     |    |    | -[ACAccountType description]
118725 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118725 ms     |    |    |    | -[ACAccountType identifier]
118725 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118725 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c6470]
118725 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118725 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1701c6450]
118725 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
118725 ms     |    |    | -[ACAccountType encodeWithCoder:0x102837400]
118725 ms     |    |    |    | -[ACAccountType identifier]
```

```
118725 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118725 ms     |    |    |    | -[ACAccountType objectID]
118725 ms     |    |    |    | -[ACAccountType visibility]
118725 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
118725 ms     |    |    |    | -[ACAccountType supportsAuthentication]
           /* TID 0xec47 */
118725 ms  +[ACAccountStore ams_sharedAccountStoreForMediaType:0x1e77eaeb0]
118725 ms     | +[AMSUnitTests isRunningUnitTests]
118725 ms     | +[ACAccountStore defaultStore]
118725 ms  -[ACAccountStore ams_activeiTunesAccount]
118725 ms     | -[ACAccountStore ams_mediaType]
118725 ms     |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118725 ms     |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118725 ms     |    |    | +[AMSAccountStoreCache cache]
118725 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118725 ms     |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
118725 ms     |    |    |    | +[AMSUnitTests isRunningUnitTests]
118725 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
118726 ms     | -[ACAccountStore ams_iTunesAccounts]
118726 ms     |    | -[ACAccountStore ams_mediaType]
118726 ms     |    |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118726 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118726 ms     |    |    |    | +[AMSAccountStoreCache cache]
118726 ms     |    |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118726 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
118726 ms     |    |    |    |    | +[AMSUnitTests isRunningUnitTests]
118726 ms     |    |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
118726 ms     |    | +[ACAccountStore ams_accountTypeIdentifierForMediaType:0x1e77eaeb0
]
118726 ms     |    | -[ACAccountStore _ams_accountsWithAccountTypeIdentifier:0x1e741887
8 options:0x1 error:0x17059a5c8]
118726 ms     |    |    | -[ACAccountStore _ams_accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x17059a5c8]
118726 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x17059a4e8]
118726 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118726 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x17059a28
0]
118726 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xf107 */
118726 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
118726 ms     |    |    |    | -[ACAccountType owningBundleID]
118726 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0xec47 */
118726 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x17059a260]
118726 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118727 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118727 ms     |    |    |    |    | -[ACAccountType description]
118727 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118727 ms     |    |    |    |    |    | -[ACAccountType identifier]
118727 ms     |    |    | -[ACAccountStore _ams_accountsWithAccountType:0x2839f55e0 opt
ions:0x1 error:0x17059a5c8]
118727 ms     |    |    |    | -[ACAccountStore accountsWithAccountType:0x2839f55e0 opt
ions:0x1 error:0x17059a548]
118727 ms     |    |    |    |    | -[ACAccountType description]
```

```
118727 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118727 ms     |    |    |    |    |    | -[ACAccountType identifier]
118727 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118727 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x17059a21
0]
118727 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118727 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x17059a1f0]
118727 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118727 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x102837400]
118727 ms     |    |    |    |    |    | -[ACAccountType identifier]
118727 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118728 ms     |    |    |    |    |    | -[ACAccountType objectID]
118728 ms     |    |    |    |    |    | -[ACAccountType visibility]
118728 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
118728 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
118728 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
118728 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
118728 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
118732 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118732 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118732 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118732 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118732 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118732 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118732 ms     |    |    |    |    | -[ACAccount description]
118732 ms     |    |    |    |    |    | -[ACAccount username]
118732 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118732 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118732 ms     |    |    |    |    |    | -[ACAccount identifier]
118732 ms     |    |    |    |    | -[ACAccount description]
118732 ms     |    |    |    |    |    | -[ACAccount username]
118732 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118732 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118732 ms     |    |    |    |    |    | -[ACAccount identifier]
118732 ms     |    |    |    |    | -[ACAccount description]
118732 ms     |    |    |    |    |    | -[ACAccount username]
118732 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118732 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118732 ms     |    |    |    |    |    | -[ACAccount identifier]
118732 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118732 ms     |    | -[ACAccount isActive]
118732 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118732 ms     |    | -[ACAccount isActive]
118732 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118732 ms     |    | -[ACAccount isActive]
          /* TID 0xf107 */
118768 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dae40]
          /* TID 0x103 */
118768 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169d2c0]
118768 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dae40]
118768 ms  -[ACAccount credentialsChanged:0x28169d2c0]
118768 ms     | -[ACAccount identifier]
          /* TID 0xf107 */
118783 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
```

```
           /* TID 0x103 */
118783 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d08ea0]
118783 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283cf80
80 completion:0x16fd69d98]
118783 ms     | -[ACAccountStore remoteAccountStoreSession]
118783 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
118783 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118783 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
118783 ms     |    | -[ACRemoteAccountStoreSession _connection]
118783 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x28169f1e0]
118783 ms     | +[AMSLogConfig sharedAccountsConfig]
118783 ms     | -[AMSLogConfig OSLogObject]
118783 ms     |    | -[AMSLogConfig propertyAccessQueue]
118783 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0xf107 */
118784 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
118784 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
118784 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
118784 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
118784 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118784 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c64c
0]
118784 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xc533 */
118785 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
118785 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
           /* TID 0xf107 */
118785 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1701c64a0]
118785 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
118785 ms     | -[ACAccountStore aa_primaryAppleAccount]
118785 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x2810257f0 pr
eloadedProperties:0x0 error:0x0]
118785 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118785 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e410]
118785 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118785 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x16fe7e3f0]
118785 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xf107 */
118785 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118785 ms     |    |    |    |    | -[ACAccountType description]
118785 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118785 ms     |    |    |    |    |    | -[ACAccountType identifier]
118785 ms     |    | -[ACAccountStore accountsWithAccountType:0x283990fc0]
118785 ms     |    |    | -[ACAccountType description]
118785 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118785 ms     |    |    |    | -[ACAccountType identifier]
118785 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118785 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c6470]
118785 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118785 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
```

```
hErrorHandler:0x1701c6450]
118785 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
118785 ms     |    |    | -[ACAccountType encodeWithCoder:0x10227d000]
118785 ms     |    |    |    | -[ACAccountType identifier]
118785 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118785 ms     |    |    |    | -[ACAccountType objectID]
118785 ms     |    |    |    | -[ACAccountType visibility]
118785 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
118785 ms     |    |    |    | -[ACAccountType supportsAuthentication]
118785 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
118785 ms     |    |    |    | -[ACAccountType owningBundleID]
118786 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0xc533 */
118786 ms  +[ACAccountStore ams_sharedAccountStoreForMediaType:0x1e77eaeb0]
118786 ms     | +[AMSUnitTests isRunningUnitTests]
118786 ms     | +[ACAccountStore defaultStore]
118786 ms  -[ACAccountStore ams_activeiTunesAccount]
118786 ms     | -[ACAccountStore ams_mediaType]
118786 ms     |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118786 ms     |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118786 ms     |    |    | +[AMSAccountStoreCache cache]
118786 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118786 ms     |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
118786 ms     |    |    |    | +[AMSUnitTests isRunningUnitTests]
118786 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
118786 ms     | -[ACAccountStore ams_iTunesAccounts]
118786 ms     |    | -[ACAccountStore ams_mediaType]
118786 ms     |    |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118786 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118786 ms     |    |    |    | +[AMSAccountStoreCache cache]
118786 ms     |    |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118787 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
118787 ms     |    |    |    |    | +[AMSUnitTests isRunningUnitTests]
118787 ms     |    |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
118787 ms     |    | +[ACAccountStore ams_accountTypeIdentifierForMediaType:0x1e77eaeb0
]
118787 ms     |    | -[ACAccountStore _ams_accountsWithAccountTypeIdentifier:0x1e741887
8 options:0x1 error:0x16fe7e5c8]
118787 ms     |    |    | -[ACAccountStore _ams_accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e5c8]
118787 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x16fe7e4e8]
118787 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118787 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e28
0]
118787 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118787 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e260]
118787 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118787 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118787 ms     |    |    |    |    | -[ACAccountType description]
118787 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118787 ms     |    |    |    |    |    | -[ACAccountType identifier]
118787 ms     |    |    | -[ACAccountStore _ams_accountsWithAccountType:0x2839f5ab0 opt
ions:0x1 error:0x16fe7e5c8]
118787 ms     |    |    |    | -[ACAccountStore accountsWithAccountType:0x2839f5ab0 opt
```

```
ions:0x1 error:0x16fe7e548]
118787 ms     |    |    |    |    | -[ACAccountType description]
118787 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118787 ms     |    |    |    |    |    | -[ACAccountType identifier]
118787 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118787 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e21
0]
118787 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118787 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e1f0]
118787 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118787 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x101a8d400]
118787 ms     |    |    |    |    |    | -[ACAccountType identifier]
118787 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118787 ms     |    |    |    |    |    | -[ACAccountType objectID]
118787 ms     |    |    |    |    |    | -[ACAccountType visibility]
118787 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
118787 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
118787 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
118787 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
118787 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
118789 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118789 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118789 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118789 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118789 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118789 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118789 ms     |    |    |    |    | -[ACAccount description]
118789 ms     |    |    |    |    |    | -[ACAccount username]
118789 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118789 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118789 ms     |    |    |    |    |    | -[ACAccount identifier]
118789 ms     |    |    |    |    | -[ACAccount description]
118789 ms     |    |    |    |    |    | -[ACAccount username]
118789 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118789 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118789 ms     |    |    |    |    |    | -[ACAccount identifier]
118789 ms     |    |    |    |    | -[ACAccount description]
118789 ms     |    |    |    |    |    | -[ACAccount username]
118789 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118789 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118789 ms     |    |    |    |    |    | -[ACAccount identifier]
118789 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118789 ms     |    | -[ACAccount isActive]
118789 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118789 ms     |    | -[ACAccount isActive]
118789 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118789 ms     |    | -[ACAccount isActive]
          /* TID 0x103 */
118798 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d0c4b0]
          /* TID 0xc533 */
118798 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
118798 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
118798 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
118798 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
```

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118798 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
118798 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
           /* TID 0x103 */
118798 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283c0ee
00 completion:0x16fd69d98]
           /* TID 0xc533 */
118798 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e4c
0]
           /* TID 0x103 */
118798 ms     | -[ACAccountStore remoteAccountStoreSession]
118798 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
           /* TID 0xc533 */
118798 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0x103 */
118798 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118798 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
118798 ms     |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
118798 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x16fe7e4a0]
118799 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0x103 */
118799 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x281697600]
118799 ms     | +[AMSLogConfig sharedAccountsConfig]
118799 ms     | -[AMSLogConfig OSLogObject]
118799 ms     |    | -[AMSLogConfig propertyAccessQueue]
118799 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0x1251f */
118799 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
118799 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
118799 ms     | -[ACAccountStore aa_primaryAppleAccount]
118799 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x281038a30 pr
eloadedProperties:0x0 error:0x0]
           /* TID 0xc533 */
118799 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118799 ms     |    |    |    |    | -[ACAccountType description]
118799 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118799 ms     |    |    |    |    |    | -[ACAccountType identifier]
           /* TID 0x1251f */
118799 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118799 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x170482410]
118799 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xc533 */
118799 ms     |    | -[ACAccountStore accountsWithAccountType:0x2839f4e00]
118799 ms     |    |    | -[ACAccountType description]
118799 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118799 ms     |    |    |    | -[ACAccountType identifier]
           /* TID 0x1251f */
118799 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1704823f0]
118799 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xc533 */
118799 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118799 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x16fe7e470]
```

```
118799 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118799 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x16fe7e450]
118799 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
118799 ms     |    |    | -[ACAccountType encodeWithCoder:0x101a84800]
118799 ms     |    |    |    | -[ACAccountType identifier]
118799 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118799 ms     |    |    |    | -[ACAccountType objectID]
118799 ms     |    |    |    | -[ACAccountType visibility]
118799 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
118799 ms     |    |    |    | -[ACAccountType supportsAuthentication]
118799 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
118799 ms     |    |    |    | -[ACAccountType owningBundleID]
118799 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0x1251f */
118800 ms  +[ACAccountStore ams_sharedAccountStoreForMediaType:0x1e77eaeb0]
118800 ms     | +[AMSUnitTests isRunningUnitTests]
118800 ms     | +[ACAccountStore defaultStore]
118800 ms  -[ACAccountStore ams_activeiTunesAccount]
118800 ms     | -[ACAccountStore ams_mediaType]
118800 ms     |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118800 ms     |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118800 ms     |    |    | +[AMSAccountStoreCache cache]
118800 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118800 ms     |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
118800 ms     |    |    |    | +[AMSUnitTests isRunningUnitTests]
118800 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
118800 ms     | -[ACAccountStore ams_iTunesAccounts]
118800 ms     |    | -[ACAccountStore ams_mediaType]
118800 ms     |    |    | +[AMSAccountStoreCache mediaTypeForAccountStore:0x283916df0]
118800 ms     |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118800 ms     |    |    |    | +[AMSAccountStoreCache cache]
118800 ms     |    |    |    |    | +[AMSAccountStoreCache cacheAccessQueue]
118800 ms     |    |    |    | +[AMSProcessInfo defaultMediaTypeForCurrentProcess]
118800 ms     |    |    |    |    | +[AMSUnitTests isRunningUnitTests]
118800 ms     |    |    |    |    | +[AMSProcessInfo defaultMediaTypeAccessQueue]
118800 ms     |    | +[ACAccountStore ams_accountTypeIdentifierForMediaType:0x1e77eaeb0
]
118800 ms     |    | -[ACAccountStore _ams_accountsWithAccountTypeIdentifier:0x1e741887
8 options:0x1 error:0x1704825c8]
118800 ms     |    |    | -[ACAccountStore _ams_accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x1704825c8]
118800 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418878 error:0x1704824e8]
118800 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118800 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x17048228
0]
118800 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118800 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x170482260]
118800 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118801 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118801 ms     |    |    |    |    | -[ACAccountType description]
118801 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118801 ms     |    |    |    |    |    | -[ACAccountType identifier]
118801 ms     |    |    | -[ACAccountStore _ams_accountsWithAccountType:0x2839f4e00 opt
```

```
ions:0x1 error:0x1704825c8]
118801 ms     |    |    |    | -[ACAccountStore accountsWithAccountType:0x2839f4e00 opt
ions:0x1 error:0x170482548]
118801 ms     |    |    |    |    | -[ACAccountType description]
118801 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118801 ms     |    |    |    |    |    | -[ACAccountType identifier]
118801 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118801 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x17048221
0]
118801 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118801 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1704821f0]
118801 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118801 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x10227d000]
118801 ms     |    |    |    |    |    | -[ACAccountType identifier]
118801 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118801 ms     |    |    |    |    |    | -[ACAccountType objectID]
118801 ms     |    |    |    |    |    | -[ACAccountType visibility]
118801 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
118801 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
118801 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
118801 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
118801 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
118803 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118803 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118803 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118803 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118803 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118803 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118803 ms     |    |    |    |    | -[ACAccount description]
118803 ms     |    |    |    |    |    | -[ACAccount username]
118803 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118803 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118803 ms     |    |    |    |    |    | -[ACAccount identifier]
118803 ms     |    |    |    |    | -[ACAccount description]
118803 ms     |    |    |    |    |    | -[ACAccount username]
118803 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118803 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118803 ms     |    |    |    |    |    | -[ACAccount identifier]
118803 ms     |    |    |    |    | -[ACAccount description]
118803 ms     |    |    |    |    |    | -[ACAccount username]
118803 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118803 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118803 ms     |    |    |    |    |    | -[ACAccount identifier]
118803 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118803 ms     |    | -[ACAccount isActive]
118803 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118803 ms     |    | -[ACAccount isActive]
118803 ms     | -[ACAccount ams_isActiveForMediaType:0x1e77eaeb0]
118803 ms     |    | -[ACAccount isActive]
          /* TID 0xf107 */
118835 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dac40]
          /* TID 0x103 */
118835 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169dc40]
118835 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dac40]
```

```
118835 ms  -[ACAccount credentialsChanged:0x28169dc40]
118835 ms     | -[ACAccount identifier]
118835 ms     | -[ACAccount isPropertyDirty:0x1e7417d98]
           /* TID 0xf107 */
118843 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807c0b00]
           /* TID 0x103 */
118843 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x28169dc40]
118843 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807c0b00]
118843 ms  -[ACAccount credentialsChanged:0x28169dc40]
118843 ms     | -[ACAccount identifier]
118843 ms     | -[ACAccount isPropertyDirty:0x1e7417d98]
118856 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d0a460]
118856 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283cfb0
80 completion:0x16fd69d98]
118856 ms     | -[ACAccountStore remoteAccountStoreSession]
118856 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
118856 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118856 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
118856 ms     |    | -[ACRemoteAccountStoreSession _connection]
118857 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x28169e520]
118857 ms     | +[AMSLogConfig sharedAccountsConfig]
118857 ms     | -[AMSLogConfig OSLogObject]
118857 ms     |    | -[AMSLogConfig propertyAccessQueue]
118857 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0xf107 */
118858 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
118858 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
118858 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
118858 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
118858 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
118858 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118858 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c64c
0]
118858 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xf427 */
118858 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
           /* TID 0xf107 */
118858 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1701c64a0]
118858 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xf427 */
118858 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
118858 ms     | -[ACAccountStore aa_primaryAppleAccount]
118858 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x281020b20 pr
eloadedProperties:0x0 error:0x0]
118858 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118858 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x170626410]
118858 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xf107 */
118858 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118858 ms     |    |    |    |    | -[ACAccountType description]
118858 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
```

```
118858 ms     |    |    |    |    |    | -[ACAccountType identifier]
           /* TID 0xf427 */
118859 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1706263f0]
           /* TID 0xf107 */
118859 ms     |    | -[ACAccountStore accountsWithAccountType:0x2839f4e00]
118859 ms     |    |    | -[ACAccountType description]
118859 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118859 ms     |    |    |    | -[ACAccountType identifier]
118859 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118859 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c6470]
118859 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
           /* TID 0xf427 */
118859 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0xf107 */
118859 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1701c6450]
118859 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
118859 ms     |    |    | -[ACAccountType encodeWithCoder:0x101a84800]
118859 ms     |    |    |    | -[ACAccountType identifier]
118859 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118859 ms     |    |    |    | -[ACAccountType objectID]
118859 ms     |    |    |    | -[ACAccountType visibility]
118859 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
118859 ms     |    |    |    | -[ACAccountType supportsAuthentication]
118859 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
118859 ms     |    |    |    | -[ACAccountType owningBundleID]
118859 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0xf427 */
118861 ms     |    |    | -[ACAccount _setAccountStore:0x283916df0]
118861 ms     |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118861 ms     |    |    | -[ACAccount description]
118861 ms     |    |    |    | -[ACAccount username]
118861 ms     |    |    |    |    | -[ACAccount _useParentForCredentials]
118861 ms     |    |    |    |    |    | -[ACAccount authenticationType]
118861 ms     |    |    |    | -[ACAccount identifier]
           /* TID 0x1251f */
118861 ms  +[ACAccount supportsSecureCoding]
           /* TID 0xf427 */
118861 ms     |    | -[ACAccount aa_isAccountClass:0x1e8b42a50]
118861 ms     |    |    | -[ACAccount aa_accountClass]
118861 ms     |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8b42c10]
118861 ms     |    |    |    |    | -[ACAccount accountPropertyForKey:0x1e8b42c10]
           /* TID 0x1251f */
118861 ms  +[ACAccountType supportsSecureCoding]
           /* TID 0xf427 */
118861 ms  -[ACAccount userFullName]
118861 ms     | -[ACAccount objectForKeyedSubscript:0x1e7417798]
118861 ms     |    | -[ACAccount accountPropertyForKey:0x1e7417798]
118861 ms     | -[ACAccount objectForKeyedSubscript:0x1e74177d8]
118861 ms     |    | -[ACAccount accountPropertyForKey:0x1e74177d8]
118862 ms     | -[ACAccount objectForKeyedSubscript:0x1e7417798]
118862 ms     |    | -[ACAccount accountPropertyForKey:0x1e7417798]
118862 ms     | -[ACAccount objectForKeyedSubscript:0x1e74177b8]
118862 ms     |    | -[ACAccount accountPropertyForKey:0x1e74177b8]
118862 ms     | -[ACAccount objectForKeyedSubscript:0x1e74177d8]
```

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118862 ms     |    | -[ACAccount accountPropertyForKey:0x1e74177d8]
           /* TID 0x1251f */
118862 ms  -[ACAccount _setAccountStore:0x283911b90]
118862 ms     | -[ACAccountType setAccountStore:0x283911b90]
           /* TID 0xf427 */
118863 ms  -[ACAccount isSubscriber]
118863 ms     | -[ACAccount accountPropertyForKey:0x1ed6c7680]
           /* TID 0x1251f */
118867 ms  -[ACAccountStore dmc_visibleRemoteManagementAccounts]
           /* TID 0x103 */
118867 ms  -[ACNotificationRebroadcaster _accountStoreDidChange:0x281d0d080]
118867 ms  -[ACAccountStore visibleTopLevelAccountsWithAccountTypeIdentifiers:0x283cf33
80 completion:0x16fd69d98]
118867 ms     | -[ACAccountStore remoteAccountStoreSession]
118867 ms     |    | -[ACTimedExpirer scheduleExpiration:0x16fd69b90]
118867 ms     |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118867 ms     | -[ACRemoteAccountStoreSession remoteObjectProxyWithErrorHandler:0x16fd6
9b70]
118867 ms     |    | -[ACRemoteAccountStoreSession _connection]
118867 ms  -[AMSAccountsChangedObservable _accountStoreDidChange:0x281697e00]
118867 ms     | +[AMSLogConfig sharedAccountsConfig]
118867 ms     | -[AMSLogConfig OSLogObject]
118867 ms     |    | -[AMSLogConfig propertyAccessQueue]
118867 ms     |    | -[AMSLogConfig backingOSLogObject]
           /* TID 0x1251f */
118869 ms     | -[ACAccountStore dmc_RemoteManagementAccounts]
118869 ms     |    | -[ACAccountStore dmc_RemoteManagementAccountType]
118869 ms     |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x1e741
8c58]
118869 ms     |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifier:0x
1e7418c58 error:0x0]
118869 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118869 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1704824c
0]
118869 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118869 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1704824a0]
118869 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118870 ms     |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118870 ms     |    |    |    |    | -[ACAccountType description]
118870 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118870 ms     |    |    |    |    |    | -[ACAccountType identifier]
118870 ms     |    | -[ACAccountStore accountsWithAccountType:0x2839934f0]
118870 ms     |    |    | -[ACAccountType description]
118870 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118870 ms     |    |    |    | -[ACAccountType identifier]
118870 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118870 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x170482470]
118870 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118870 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x170482450]
118870 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
118870 ms     |    |    | -[ACAccountType encodeWithCoder:0x10227d000]
118870 ms     |    |    |    | -[ACAccountType identifier]
118870 ms     |    |    |    | -[ACAccountType accountTypeDescription]
118870 ms     |    |    |    | -[ACAccountType objectID]
```

```
118870 ms     |    |    |    | -[ACAccountType visibility]
118870 ms     |    |    |    | -[ACAccountType credentialProtectionPolicy]
118870 ms     |    |    |    | -[ACAccountType supportsAuthentication]
118870 ms     |    |    |    | -[ACAccountType supportsMultipleAccounts]
118870 ms     |    |    |    | -[ACAccountType owningBundleID]
118870 ms     |    |    |    | -[ACAccountType isObsolete]
           /* TID 0xf427 */
118871 ms  -[ACAccountStore aa_primaryAppleAccount]
118871 ms     | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x28100c120 preload
edProperties:0x0 error:0x0]
118871 ms     |    | -[ACAccountStore remoteAccountStoreSession]
118871 ms     |    |    | -[ACTimedExpirer scheduleExpiration:0x170626450]
118871 ms     |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118871 ms     |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWithErro
rHandler:0x170626430]
118871 ms     |    |    | -[ACRemoteAccountStoreSession _connection]
           /* TID 0x1251f */
118875 ms  -[ACAccount _setAccountStore:0x283911b90]
118875 ms     | -[ACAccountType setAccountStore:0x283911b90]
           /* TID 0xf427 */
118876 ms     |    | -[ACAccount _setAccountStore:0x283916df0]
118876 ms     |    |    | -[ACAccountType setAccountStore:0x283916df0]
118876 ms     |    | -[ACAccount description]
118876 ms     |    |    | -[ACAccount username]
118876 ms     |    |    |    | -[ACAccount _useParentForCredentials]
118876 ms     |    |    |    |    | -[ACAccount authenticationType]
118876 ms     |    |    | -[ACAccount identifier]
118876 ms     | -[ACAccount aa_isAccountClass:0x1e8b42a50]
118876 ms     |    | -[ACAccount aa_accountClass]
118876 ms     |    |    | -[ACAccount objectForKeyedSubscript:0x1e8b42c10]
118876 ms     |    |    |    | -[ACAccount accountPropertyForKey:0x1e8b42c10]
118877 ms  -[AAUIProfilePictureStore initWithAppleAccount:0x282b40ee0 store:0x283916df0
]
118877 ms     | -[ACAccountStore aa_grandSlamAccountForiCloudAccount:0x282b40ee0]
118877 ms     |    | -[ACAccountStore aida_accountForiCloudAccount:0x282b40ee0]
118877 ms     |    |    | -[ACAccount aida_alternateDSID]
118877 ms     |    |    |    | -[ACAccount accountPropertyForKey:0x1ecb2ded0]
118877 ms     |    |    | -[ACAccountStore aida_AppleIDAuthenticationAccounts]
118877 ms     |    |    |    | -[ACAccountStore aida_AppleIDAuthenticationAccountType]
118877 ms     |    |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIdentifi
er:0x1e7418a38]
118877 ms     |    |    |    |    |    | -[ACAccountStore accountTypeWithAccountTypeIde
ntifier:0x1e7418a38 error:0x0]
118877 ms     |    |    |    |    |    |    | -[ACAccountStore remoteAccountStoreSessio
n]
118877 ms     |    |    |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:
0x1706263a0]
118877 ms     |    |    |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelT
imer]
118877 ms     |    |    |    |    |    |    | -[ACRemoteAccountStoreSession synchronous
RemoteObjectProxyWithErrorHandler:0x170626380]
118877 ms     |    |    |    |    |    |    |    | -[ACRemoteAccountStoreSession _conne
ction]
118878 ms     |    |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916d
f0]
118878 ms     |    |    |    |    |    |    | -[ACAccountType description]
```

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118878 ms     |    |    |    |    |    |    |    | -[ACAccountType accountTypeDescripti
on]
118878 ms     |    |    |    |    |    |    |    | -[ACAccountType identifier]
118878 ms     |    |    |    | -[ACAccountStore accountsWithAccountType:0x2839938e0]
118878 ms     |    |    |    |    | -[ACAccountType description]
118878 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118878 ms     |    |    |    |    |    | -[ACAccountType identifier]
118878 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118878 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x17062635
0]
118878 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118878 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x170626330]
118878 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118878 ms     |    |    |    |    | -[ACAccountType encodeWithCoder:0x10227fa00]
118878 ms     |    |    |    |    |    | -[ACAccountType identifier]
118878 ms     |    |    |    |    |    | -[ACAccountType accountTypeDescription]
118878 ms     |    |    |    |    |    | -[ACAccountType objectID]
118878 ms     |    |    |    |    |    | -[ACAccountType visibility]
118878 ms     |    |    |    |    |    | -[ACAccountType credentialProtectionPolicy]
118878 ms     |    |    |    |    |    | -[ACAccountType supportsAuthentication]
118878 ms     |    |    |    |    |    | -[ACAccountType supportsMultipleAccounts]
118878 ms     |    |    |    |    |    | -[ACAccountType owningBundleID]
118878 ms     |    |    |    |    |    | -[ACAccountType isObsolete]
118880 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118880 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118880 ms     |    |    |    |    | -[ACAccount _setAccountStore:0x283916df0]
118880 ms     |    |    |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118880 ms     |    |    |    |    | -[ACAccount description]
118880 ms     |    |    |    |    |    | -[ACAccount username]
118880 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118880 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118880 ms     |    |    |    |    |    | -[ACAccount identifier]
118880 ms     |    |    |    |    | -[ACAccount description]
118880 ms     |    |    |    |    |    | -[ACAccount username]
118880 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118880 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118880 ms     |    |    |    |    |    | -[ACAccount identifier]
118880 ms     |    |    | -[ACAccount aida_alternateDSID]
118880 ms     |    |    |    | -[ACAccount accountPropertyForKey:0x1ecb2ded0]
118880 ms     |    |    | -[ACAccount accountPropertyForKey:0x1ecb2e030]
118880 ms     |    |    | -[ACAccount username]
118880 ms     |    |    |    | -[ACAccount _useParentForCredentials]
118880 ms     |    |    |    |    | -[ACAccount authenticationType]
118880 ms     |    |    | -[ACAccount username]
118880 ms     |    |    |    | -[ACAccount _useParentForCredentials]
118880 ms     |    |    |    |    | -[ACAccount authenticationType]
118880 ms     |    |    | -[ACAccount aida_alternateDSID]
118880 ms     |    |    |    | -[ACAccount accountPropertyForKey:0x1ecb2ded0]
118880 ms     | -[AAUIProfilePictureStore initWithAppleAccount:0x282b40ee0 grandSlamAcc
ount:0x282b441c0 accountStore:0x283916df0]
118880 ms     |    | -[ACAccount accountType]
118880 ms     |    | -[ACAccountType identifier]
118880 ms     |    | -[AAGrandSlamSigner initWithAccountStore:0x283916df0 grandSlamAcco
unt:0x282b441c0 appTokenID:0x1e8b3e6d0]
118880 ms     |    | -[AAUIProfilePictureStore initWithAppleAccount:0x282b40ee0 grandSl
```

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amSigner:0x281d0c6c0]
118881 ms     |    |    | -[AAGrandSlamSigner accountStore]
118897 ms     |    |    | -[ACAccountStore init]
118897 ms     |    |    |    | -[ACAccountStore initWithRemoteEndpoint:0x0 effectiveBun
dleID:0x0]
118897 ms     |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
118897 ms     |    |    |    |    |    | -[ACTimedExpirer init]
118897 ms     |    |    |    |    | +[ACTimedExpirer expirerWithTimeout:0x1e]
118897 ms     |    |    |    |    |    | -[ACTimedExpirer init]
118897 ms     |    |    |    |    | +[ACNotificationRebroadcaster sharedRebroadcaster]
118897 ms     |    |    | -[AAUIProfilePictureStore _beginObservingContactStoreDidChang
eNotifications]
118897 ms  -[AAUIProfilePictureStore profilePictureForAccountOwnerWithoutMonogramFallba
ck]
118897 ms     | -[ACAccount isEnabledForDataclass:0x1e74165f8]
118897 ms     |    | -[ACAccount enabledDataclasses]
118897 ms     |    |    | -[ACAccount parentAccount]
118897 ms     |    |    | -[ACAccount accountStore]
118897 ms     |    |    | -[ACAccountStore enabledDataclassesForAccount:0x282b40ee0 err
or:0x170626738]
118897 ms     |    |    |    | -[ACAccount description]
118897 ms     |    |    |    |    | -[ACAccount username]
118897 ms     |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118897 ms     |    |    |    |    |    |    | -[ACAccount authenticationType]
118897 ms     |    |    |    |    | -[ACAccount identifier]
118897 ms     |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118897 ms     |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1706264d0]
118897 ms     |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118897 ms     |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectPro
xyWithErrorHandler:0x1706264b0]
118897 ms     |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118897 ms     |    |    |    | -[ACAccount identifier]
118899 ms     |    |    | -[ACTrackedSet initWithSet:0x28169e720]
118899 ms     |    |    |    | -[ACTrackedSet _initWithEnumerable:0x28169e720 count:0x3
]
118899 ms     |    |    |    |    | -[ACTrackedSet initWithObjects:0x28169f900 count:0x
3]
118899 ms     | -[ACAccount aa_personID]
118899 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b42670]
118899 ms     | +[AAUIServerSuppliedProfilePictureCache sharedCache]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCache init]
118899 ms     | -[AAUIServerSuppliedProfilePictureCache profilePictureForPersonID:0x281
64eb60 diameter:0x1706267b0 serverFetchBlock:0x70377d30]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCache _ensureMinimumPictureDiame
ter_mustBeSynchronized:0xf427]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry description]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry description]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry picture]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry updating]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry expired]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry setUpdating:0x1]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry serverCacheTag]
118899 ms     |    | -[AAUIProfilePictureStore _fetchProfilePictureForAccountOwnerFromS
erver:0x28164eb60 serverCacheTag:0x0 completion:0x0]
118899 ms     |    |    | -[AAMyPhotoRequest initWithAccount:0x282b40ee0]
118899 ms     |    |    | -[AAMyPhotoRequest setServerCacheTag:0x0]
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118899 ms     |    |    | -[AAUIProfilePictureStore _fetchProfilePictureWithRequest:0x2
836f6340 personID:0x28164eb60 completion:0x0]
118899 ms     |    |    |    | -[AAUIProfilePictureStore _fetchProfilePictureSupersetWi
thRequest:0x2836f6340 personID:0x28164eb60 completion:0x170626658]
118899 ms     |    |    |    |    | -[AARequest performRequestWithHandler:0x1706265e8]
118899 ms     |    |    |    |    |    | +[AAURLSession sharedSession]
118899 ms     |    |    |    |    |    | -[AARequest performRequestWithSession:0x281c39
5c0 withHandler:0x1706265e8]
118899 ms  -[AAUIProfilePictureStore profilePictureForAccountOwner]
118899 ms     | -[AAUIProfilePictureStore profilePictureForAccountOwnerWithoutMonogramF
allback]
118899 ms     |    | -[ACAccount isEnabledForDataclass:0x1e74165f8]
118899 ms     |    |    | -[ACAccount enabledDataclasses]
118899 ms     |    |    |    | -[ACAccount parentAccount]
118899 ms     |    | -[ACAccount aa_personID]
118899 ms     |    |    | -[ACAccount accountPropertyForKey:0x1e8b42670]
118899 ms     |    | +[AAUIServerSuppliedProfilePictureCache sharedCache]
118899 ms     |    | -[AAUIServerSuppliedProfilePictureCache profilePictureForPersonID:
0x28164eb60 diameter:0x170626760 serverFetchBlock:0x8]
118899 ms     |    |    | -[AAUIServerSuppliedProfilePictureCache _ensureMinimumPicture
Diameter_mustBeSynchronized:0xf427]
118899 ms     |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry description]
118899 ms     |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry picture]
118899 ms     |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry updating]
118899 ms     | -[ACAccount aa_firstName]
118899 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b3c550]
118899 ms     | -[ACAccount aa_lastName]
118899 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b3c570]
118899 ms     | -[AAUIProfilePictureStore _fallbackProfilePictureForPersonWithFirstName
:0x28164d340 lastName:0x28164f8a0]
118899 ms     |    | -[AAUIProfilePictureStore _monogrammer]
           /* TID 0xf107 */
118899 ms  -[AAMyPhotoRequest urlString]
118899 ms     | +[AAURLConfiguration urlConfiguration]
118899 ms     |    | +[AAURLConfiguration _urlConfigurationWithError:0x0]
118899 ms     |    |    | +[AAURLConfiguration remoteServer]
118899 ms     |    |    | -[AARemoteServer configurationWithCompletion:0x1701c6d48]
118899 ms     |    |    |    | -[AARemoteServer _configurationAndResponseWithCompletion
:0x1701c6ce8]
118899 ms     |    |    |    |    | -[AARemoteServer _configurationCacheInvalidatingIfN
ecessary]
118899 ms     |    |    |    |    |    | -[AARemoteServer _configurationLock_configurat
ionCacheInvalidatingIfNecessary]
118899 ms     |    |    |    |    |    |    | -[AARemoteServerConfigurationCache creati
onDate]
118899 ms     |    |    |    |    | -[AARemoteServerConfigurationCache configuration]
118900 ms     |    |    |    |    | -[AARemoteServerConfigurationCache response]
118900 ms     | -[AAURLConfiguration getMyPhotoURL]
118900 ms     |    | -[AAURLConfiguration _urlStringForKey:0x1e8b3ee90]
118900 ms  -[AAMyPhotoRequest urlRequest]
118900 ms     | -[AARequest urlRequest]
118900 ms     |    | -[AAMyPhotoRequest urlString]
118900 ms     |    |    | +[AAURLConfiguration urlConfiguration]
118900 ms     |    |    |    | +[AAURLConfiguration _urlConfigurationWithError:0x0]
118900 ms     |    |    |    |    | +[AAURLConfiguration remoteServer]
118900 ms     |    |    |    |    | -[AARemoteServer configurationWithCompletion:0x1701
```

```
c6b78]
118900 ms     |    |    |    |    |    | -[AARemoteServer _configurationAndResponseWith
Completion:0x1701c6b18]
118900 ms     |    |    |    |    |    |    | -[AARemoteServer _configurationCacheInval
idatingIfNecessary]
118900 ms     |    |    |    |    |    |    |    | -[AARemoteServer _configurationLock_
configurationCacheInvalidatingIfNecessary]
118900 ms     |    |    |    |    |    |    |    |    | -[AARemoteServerConfigurationCa
che creationDate]
118900 ms     |    |    |    |    |    |    | -[AARemoteServerConfigurationCache config
uration]
118900 ms     |    |    |    |    |    |    | -[AARemoteServerConfigurationCache respon
se]
118900 ms     |    |    | -[AAURLConfiguration getMyPhotoURL]
118900 ms     |    |    |    | -[AAURLConfiguration _urlStringForKey:0x1e8b3ee90]
118900 ms     |    | -[AARequest flushCache]
118901 ms     |    | +[AADeviceInfo clientInfoHeader]
118901 ms     |    |    | +[AADeviceInfo clientInfoHeader]
118901 ms     |    |    |    | -[AADeviceInfo productType]
118901 ms     |    |    |    | -[AADeviceInfo osName]
118901 ms     |    |    |    | +[AADeviceInfo osVersion]
118901 ms     |    |    |    | -[AADeviceInfo buildVersion]
118902 ms     |    | +[AAPreferences isExperimentalModeEnabled]
118902 ms     |    |    | +[AADeviceInfo isInternalBuild]
118902 ms     | -[ACAccount description]
118902 ms     |    | -[ACAccount username]
118902 ms     |    |    | -[ACAccount _useParentForCredentials]
118902 ms     |    |    |    | -[ACAccount authenticationType]
118902 ms     |    | -[ACAccount identifier]
118902 ms     | -[ACAccount aa_personID]
118902 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b42670]
118902 ms     | -[ACAccount aa_authToken]
118902 ms     |    | -[ACAccount credential]
118902 ms     |    |    | -[ACAccount credentialWithError:0x0]
118902 ms     |    |    |    | -[ACAccount _useParentForCredentials]
118902 ms     |    |    |    |    | -[ACAccount authenticationType]
118902 ms     |    |    |    | -[ACAccount accountStore]
118902 ms     |    |    |    | -[ACAccountStore credentialForAccount:0x282b40ee0 error:
0x0]
118902 ms     |    |    |    |    | -[ACAccount description]
118902 ms     |    |    |    |    |    | -[ACAccount username]
118902 ms     |    |    |    |    |    |    | -[ACAccount _useParentForCredentials]
118902 ms     |    |    |    |    |    |    |    | -[ACAccount authenticationType]
118902 ms     |    |    |    |    |    | -[ACAccount identifier]
118902 ms     |    |    |    |    | -[ACAccountStore remoteAccountStoreSession]
118902 ms     |    |    |    |    |    | -[ACTimedExpirer scheduleExpiration:0x1701c69d
0]
118902 ms     |    |    |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118902 ms     |    |    |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObje
ctProxyWithErrorHandler:0x1701c69b0]
118902 ms     |    |    |    |    |    | -[ACRemoteAccountStoreSession _connection]
118903 ms     |    |    |    |    | -[ACAccount identifier]
118907 ms     |    |    |    |    | +[ACAccountCredential supportsSecureCoding]
118907 ms     |    |    |    |    | +[ACZeroingString supportsSecureCoding]
118907 ms     |    |    |    |    | -[ACAccountCredential _setOwningAccount:0x282b40ee0
]
```

```
118907 ms     |    |    |    |    | -[ACAccountCredential description]
118907 ms     |    |    |    | -[ACAccount _installCredentialsChangedObserver]
118908 ms     |    | -[ACAccountCredential token]
118908 ms     |    |    | -[ACAccountCredential credentialItemForKey:0x1e74190b8]
118908 ms     |    |    |    | -[ACZeroingString length]
118908 ms     |    |    |    | -[ACZeroingString getCharacters:0x1203769e0 range:0x0]
118908 ms     | -[ACAccount aa_personID]
118908 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b42670]
118908 ms     | -[ACAccount aa_authToken]
118908 ms     |    | -[ACAccount credential]
118908 ms     |    |    | -[ACAccount credentialWithError:0x0]
118908 ms     |    |    |    | -[ACAccount _useParentForCredentials]
118908 ms     |    |    |    |    | -[ACAccount authenticationType]
118908 ms     |    | -[ACAccountCredential token]
118908 ms     |    |    | -[ACAccountCredential credentialItemForKey:0x1e74190b8]
118908 ms     |    |    |    | -[ACZeroingString length]
118908 ms     |    |    |    | -[ACZeroingString getCharacters:0x120373360 range:0x0]
118908 ms     | -[ACAccount aa_altDSID]
118908 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b3c830]
118908 ms     | -[ACAccount aa_repairState]
118908 ms     |    | -[ACAccount parentAccount]
118908 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b42bf0]
118908 ms  -[AAURLSession dataTaskWithRequest:0x28100a090 completion:0x1701c6e40]
118908 ms     | -[AAURLSession _enqueueRequest:0x28100a090 completion:0x1701c6e40]
118908 ms     |    | -[AKAppleIDSession initWithIdentifier:0x281cc6fa0]
118908 ms     |    | -[AAURLSessionContext _initRequiringSigning:0x0 appleIDSession:0x2
807c83c0]
118908 ms  -[AAURLSession _sessionQueue_enqueueTask:0x120376ee0 completion:0x281d00720]
           /* TID 0xc533 */
118910 ms  -[AAURLSessionContext URLSession:0x10401f340 task:0x120376ee0 getAppleIDHead
ersForResponse:0x0 completionHandler:0x16fe7e650]
118910 ms     | -[AKAppleIDSession URLSession:0x10401f340 task:0x1203769e0 getAppleIDHe
adersForResponse:0x0 completionHandler:0x16fe7e5c0]
118910 ms     |    | -[AKAppleIDSession _generateAppleIDHeadersForSessionTask:0x1203769
e0 withCompletion:0x16fe7e538]
118910 ms     |    |    | -[AKAppleIDSession _nativeAnisetteController]
118910 ms     |    |    |    | -[AKAnisetteProvisioningController init]
118910 ms     |    |    | -[AKAnisetteProvisioningController anisetteDataForURLRequest:
0x28100dfd0 completion:0x16fe7e428]
118910 ms     |    |    |    | -[AKAnisetteProvisioningController fetchAnisetteDataAndP
rovisionIfNecessary:0x1 withCompletion:0x16fe7e428]
118910 ms     |    |    |    |    | -[AKAnisetteProvisioningController _anisetteService
Connection]
118910 ms     |    |    |    |    |    | +[AKAnisetteProvisioningDaemonInterface XPCInt
erface]
118910 ms     |    |    |    |    |    | +[AKAnisetteProvisioningClientInterface XPCInt
erface]
           /* TID 0xf427 */
118911 ms     | -[AAUIProfilePictureStore pictureDiameter]
118911 ms  -[AACloudServiceOwner accountForService:0x1ecb2df10]
118912 ms     | +[AACloudServiceOwner _serviceTypeForPlatform]
118912 ms     | -[ACAccountStore aa_primaryAppleAccount]
118912 ms     |    | -[ACAccountStore accountsWithAccountTypeIdentifiers:0x281025dc0 pr
eloadedProperties:0x0 error:0x0]
118912 ms     |    |    | -[ACAccountStore remoteAccountStoreSession]
118912 ms     |    |    |    | -[ACTimedExpirer scheduleExpiration:0x170626410]
```

```
118912 ms     |    |    |    |    | -[ACTimedExpirer _unsafeCancelTimer]
118912 ms     |    |    | -[ACRemoteAccountStoreSession synchronousRemoteObjectProxyWit
hErrorHandler:0x1706263f0]
118912 ms     |    |    |    | -[ACRemoteAccountStoreSession _connection]
118918 ms     |    |    | -[ACAccount _setAccountStore:0x283916df0]
118918 ms     |    |    |    | -[ACAccountType setAccountStore:0x283916df0]
118918 ms     |    |    | -[ACAccount description]
118918 ms     |    |    |    | -[ACAccount username]
118918 ms     |    |    |    |    | -[ACAccount _useParentForCredentials]
118918 ms     |    |    |    |    |    | -[ACAccount authenticationType]
118918 ms     |    |    |    | -[ACAccount identifier]
118918 ms     |    | -[ACAccount aa_isAccountClass:0x1e8b42a50]
118918 ms     |    |    | -[ACAccount aa_accountClass]
118918 ms     |    |    |    | -[ACAccount objectForKeyedSubscript:0x1e8b42c10]
118918 ms     |    |    |    |    | -[ACAccount accountPropertyForKey:0x1e8b42c10]
118918 ms  -[ACAccount userFullName]
118918 ms     | -[ACAccount objectForKeyedSubscript:0x1e7417798]
118918 ms     |    | -[ACAccount accountPropertyForKey:0x1e7417798]
118918 ms     | -[ACAccount objectForKeyedSubscript:0x1e74177d8]
118918 ms     |    | -[ACAccount accountPropertyForKey:0x1e74177d8]
118919 ms     | -[ACAccount objectForKeyedSubscript:0x1e7417798]
118919 ms     |    | -[ACAccount accountPropertyForKey:0x1e7417798]
118919 ms     | -[ACAccount objectForKeyedSubscript:0x1e74177b8]
118919 ms     |    | -[ACAccount accountPropertyForKey:0x1e74177b8]
118919 ms     | -[ACAccount objectForKeyedSubscript:0x1e74177d8]
118919 ms     |    | -[ACAccount accountPropertyForKey:0x1e74177d8]
           /* TID 0x1251f */
118919 ms  +[AKAnisetteData supportsSecureCoding]
118919 ms  -[AKAppleIDSession _genericAppleIDHeadersDictionaryForRequest:0x28100dfd0]
           /* TID 0xf427 */
118919 ms  -[ACAccount isSubscriber]
118919 ms     | -[ACAccount accountPropertyForKey:0x1ed6c7680]
           /* TID 0x1251f */
118920 ms     | +[AKDevice currentDevice]
118920 ms     | -[AKDevice locale]
118920 ms  -[AKAnisetteData machineID]
118920 ms  -[AKAnisetteData oneTimePassword]
118920 ms  -[AKAnisetteData routingInfo]
118921 ms  +[AKDevice currentDevice]
118921 ms  -[AKDevice localUserUUID]
118921 ms  +[AKConfiguration sharedConfiguration]
118921 ms  -[AKConfiguration shouldAllowTestApplication]
118921 ms     | -[AKConfiguration configurationValueForKey:0x1e8b17ff8]
118921 ms  -[AKAppleIDSession _pairedDeviceAnisetteController]
118921 ms  -[AAURLSessionContext _additionalHeadersForRequest:0x281025f50 completion:0x
170482270]
118921 ms     | -[AAURLSessionContext requiresSigning]
           /* TID 0xc533 */
118921 ms  +[NSError _web_errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 URL:0x283
993c60]
118921 ms     | -[NSError _web_initWithDomain_nowarn:0x1f61f0440 code:0xffffffffffffffc1
9 URL:0x283993c60]
118921 ms     |    | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userI
nfo:0x281691260]
118921 ms  -[NSError userInfo]
118921 ms  -[NSError domain]
```

```
118921 ms  -[NSError code]
118921 ms  -[NSError domain]
118921 ms  -[NSError code]
118921 ms  -[NSError userInfo]
118921 ms  -[NSError userInfo]
           /* TID 0xf427 */
118921 ms  -[AAUIProfilePictureStore profilePictureForAccountOwnerWithoutMonogramFallba
ck]
118921 ms     | -[ACAccount isEnabledForDataclass:0x1e74165f8]
118921 ms     |    | -[ACAccount enabledDataclasses]
118921 ms     |    |    | -[ACAccount parentAccount]
118921 ms     | -[ACAccount aa_personID]
118921 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b42670]
118921 ms     | +[AAUIServerSuppliedProfilePictureCache sharedCache]
118921 ms     | -[AAUIServerSuppliedProfilePictureCache profilePictureForPersonID:0x281
64eb60 diameter:0x1706267b0 serverFetchBlock:0x8]
118921 ms     |    | -[AAUIServerSuppliedProfilePictureCache _ensureMinimumPictureDiame
ter_mustBeSynchronized:0xf427]
118921 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry description]
           /* TID 0xc533 */
118921 ms  -[NSError domain]
118922 ms  -[NSError code]
118922 ms  +[NSError errorWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0x281
6a06c0]
118922 ms     | -[NSError initWithDomain:0x1f61f0440 code:0xffffffffffffffc19 userInfo:0
x2816a06c0]
118922 ms  -[NSError code]
118922 ms  -[NSError code]
118922 ms  -[NSError description]
118922 ms     | -[NSError userInfo]
118922 ms     | -[NSError domain]
118922 ms     | -[NSError userInfo]
118922 ms     | -[NSError domain]
118922 ms     | -[NSError userInfo]
118922 ms     | -[NSError userInfo]
118922 ms     | -[NSError domain]
118922 ms     | -[NSError code]
           /* TID 0xf427 */
118922 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry picture]
118922 ms     |    | -[AAUIServerSuppliedProfilePictureCacheEntry updating]
118922 ms  -[AAUIProfilePictureStore profilePictureForAccountOwner]
118922 ms     | -[AAUIProfilePictureStore profilePictureForAccountOwnerWithoutMonogramF
allback]
118922 ms     |    | -[ACAccount isEnabledForDataclass:0x1e74165f8]
118922 ms     |    |    | -[ACAccount enabledDataclasses]
118922 ms     |    |    |    | -[ACAccount parentAccount]
118922 ms     |    | -[ACAccount aa_personID]
118922 ms     |    |    | -[ACAccount accountPropertyForKey:0x1e8b42670]
118922 ms     |    | +[AAUIServerSuppliedProfilePictureCache sharedCache]
118922 ms     |    | -[AAUIServerSuppliedProfilePictureCache profilePictureForPersonID:
0x28164eb60 diameter:0x170626760 serverFetchBlock:0x8]
118922 ms     |    |    | -[AAUIServerSuppliedProfilePictureCache _ensureMinimumPicture
Diameter_mustBeSynchronized:0xf427]
118922 ms     |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry description]
118922 ms     |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry picture]
118922 ms     |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry updating]
```

```
118922 ms     | -[ACAccount aa_firstName]
118922 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b3c550]
118922 ms     | -[ACAccount aa_lastName]
118922 ms     |    | -[ACAccount accountPropertyForKey:0x1e8b3c570]
118922 ms     | -[AAUIProfilePictureStore _fallbackProfilePictureForPersonWithFirstName
:0x28164d340 lastName:0x28164f8a0]
118922 ms     |    | -[AAUIProfilePictureStore _monogrammer]
118922 ms     | -[AAUIProfilePictureStore pictureDiameter]
           /* TID 0xf107 */
118969 ms  -[ACAccount _setObjectID:0x2839a8230]
118969 ms  -[ACAccount _clearCachedChildAccounts]
118969 ms  -[ACAccount _setAccountStore:0x2839f4a10]
118969 ms     | -[ACAccountType setAccountStore:0x2839f4a10]
118969 ms  -[ACAccount _clearDirtyProperties]
118969 ms     | -[ACTrackedSet allObjects]
118969 ms     | -[ACTrackedSet initWithArray:0x281690840]
118969 ms     |    | -[ACTrackedSet _initWithEnumerable:0x281690840 count:0x22]
118969 ms     |    |    | -[ACTrackedSet initWithObjects:0x12962ddb0 count:0x22]
118969 ms     | -[ACTrackedSet allObjects]
118969 ms     | -[ACTrackedSet initWithArray:0x281690940]
118969 ms     |    | -[ACTrackedSet _initWithEnumerable:0x281690940 count:0x3]
118969 ms     |    |    | -[ACTrackedSet initWithObjects:0x281690dc0 count:0x3]
118969 ms     | -[ACAccountCredential _clearDirtyProperties]
118969 ms  -[ACAccountStore _unsanitizeError:0x0]
           /* TID 0x1251f */
118969 ms  -[AASignInFlowController _addKeysAndEnrollCDPStateForAccount:0x282b408c0 wit
hCDPContext:0x282558580 completion:0x281d08510]
118969 ms     | -[AASignInFlowController _enrollCDPStateForAccount:0x282b408c0 withCDPC
ontext:0x282558580 completion:0x281d08510]
           /* TID 0xf107 */
119050 ms  -[ACAccountStoreClientSideListener accountCredentialsDidChangeForAccountWith
Identifier:0x2807dba40]
           /* TID 0x103 */
119051 ms  -[ACMonitoredAccountStore credentialsChangedNotification:0x281690da0]
119051 ms     | -[ACMonitoredAccountStore monitoredAccountWithIdentifier:0x2807dba40]
119051 ms  -[ACAccount credentialsChanged:0x281690da0]
119051 ms     | -[ACAccount identifier]
119051 ms  -[ACAccount credentialsChanged:0x281690da0]
119051 ms     | -[ACAccount identifier]
           /* TID 0xf107 */
119473 ms  -[AAURLSession URLSession:0x10401f340 task:0x120376ee0 didCompleteWithError:
0x0]
119473 ms     | -[AAURLSession _sessionQueue_dequeueTask:0x120376ee0 withResponse:0x281
6a24e0 error:0x0]
119473 ms     |    | -[AARequest _handleDataTaskCompletionWithData:0x0 response:0x2816a
24e0 error:0x0]
119474 ms     |    |    | +[AAMyPhotoRequest responseClass]
119475 ms     |    |    | -[AAPhotoResponse initWithHTTPResponse:0x2816a24e0 data:0x0]
119475 ms     |    |    |    | -[AAResponse initWithHTTPResponse:0x2816a24e0 data:0x0]
119475 ms     |    |    |    |    | -[AAResponse initWithHTTPResponse:0x2816a24e0 data:
0x0 bodyIsPlist:0x1]
119476 ms     |    |    |    |    |    | -[AAResponse _parsePlistResponse:0x0]
119476 ms     |    |    |    |    |    | -[AAResponse responseDictionary]
119476 ms     |    |    |    |    |    | -[AAResponse responseDictionary]
119477 ms     |    |    |    |    |    | -[AAResponse error]
119477 ms     |    |    |    |    |    | +[NSError errorWithDomain:0x1e8b3abf0 code:0x1
```

```
94 userInfo:0x2816a31e0]
119477 ms     |    |    |    |    |    |    | -[NSError initWithDomain:0x1e8b3abf0 code
:0x194 userInfo:0x2816a31e0]
119477 ms     |    |    |    |    |    | -[AAResponse setError:0x281d60db0]
119477 ms     |    |    |    | -[AAResponse data]
119477 ms     |    |    | -[AAResponse statusCode]
119478 ms     |    |    | +[AAUIServerSuppliedProfilePictureCache sharedCache]
119478 ms     |    |    | -[AAUIServerSuppliedProfilePictureCache updateProfilePicture:
0x0 didReceiveNewPicture:0x1 serverCacheTag:0x0 forPersonID:0x28164eb60]
119478 ms     |    |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry description
]
119478 ms     |    |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry setUpdating
:0x0]
119478 ms     |    |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry picture]
119479 ms     |    |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry setPicture:
0x0]
119479 ms     |    |    |    | -[AAUIServerSuppliedProfilePictureCacheEntry description
]
           /* TID 0x103 */
124786 ms  -[AAUISpinnerViewController viewWillDisappear:0x1]
124860 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124860 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124869 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124869 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124870 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124870 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124899 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124899 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124913 ms  +[NSError errorWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
124913 ms     | -[NSError initWithDomain:0x1e856c458 code:0x191 userInfo:0x0]
           /* TID 0xf427 */
141362 ms  -[ACTimedExpirer _cancelTimer]
141363 ms     | -[ACTimedExpirer _unsafeCancelTimer]
141363 ms  -[ACAccountStoreClientSideListener connectionWasInvalidated]
146495 ms  -[ACTimedExpirer _cancelTimer]
146495 ms     | -[ACTimedExpirer _unsafeCancelTimer]
146496 ms  -[ACAccountStoreClientSideListener connectionWasInvalidated]
149545 ms  -[ACTimedExpirer _cancelTimer]
149549 ms     | -[ACTimedExpirer _unsafeCancelTimer]
149549 ms  -[ACAccountStoreClientSideListener connectionWasInvalidated]
           /* TID 0x11c3b */
149549 ms  -[ACTimedExpirer _cancelTimer]
149549 ms     | -[ACTimedExpirer _unsafeCancelTimer]
149550 ms  -[ACAccountStoreClientSideListener connectionWasInvalidated]
```

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Android

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常用命令举例

此处列出，Frida的frida-trace去hook安卓的app时，常用的具体命令：

```
frida-trace -U -n system_server --runtime=v8 -j '*ActivityManagerService!*'

frida-trace -U -n system_server --runtime=v8 -j '*handleProcessStartedLocked!*'

frida-trace -U -n system_server --runtime=v8 -j '*ActivityManager!*' -j '*!startProcess
Locked' -j '*!handleProcessStartedLocked'

frida-trace -U -n system_server --runtime=v8 -j '*ActivityManager!*' -j '*!startProcess
Locked' -j '*!handleProcessStartedLocked' -J '*!checkComponentPermission'

frida-trace -U -n system_server --runtime=v8 -j '*ActivityManager!*' -j '*!*startProces
sLocked*' -j '*!*handleProcessStartedLocked*' -J '*!checkComponentPermission'

frida-trace -U -N com.wallpaper.hd.funny --runtime=v8 -j '*ActivityManager!*' -j '*!*st
artProcessLocked*' -j '*!*handleProcessStartedLocked*' -J '*!checkComponentPermission'

frida-trace -U -n system_server --runtime=v8 -j '*!startInstrumentation'

frida-trace -U -n system_server --runtime=v8 -j '*!bindService'
frida-trace -U -n system_server --runtime=v8 -j '*!bindService' -j '*!handleProcessStar
tedLocked'

frida-trace -U -n system_server --runtime=v8 -j '*!startService' -j '*!handleProcessSta
rtedLocked' -j '*!forceStopPackage'

frida-trace -U -N com.wallpaper.hd.funny --runtime=v8 -j '*!execTransact' -j '*!onTrans
act'

frida-trace -U -N com.wallpaper.hd.funny -i 'onTransact'

frida-trace -U -i 'onTransact' -p 21925

frida-trace -U -N com.wallpaper.hd.funny -i '*onTransact*'

frida-trace -U -n system_server -i '*onTransact*'

frida-trace -U -n system_server --runtime=v8 -j '*!startService' -j '*!handleProcessSta
rtedLocked' -j '*!forceStopPackage'  -J '*!checkComponentPermission' -i '*onTransact*'
```

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安卓系统进程system_server

此处列出frida-trace去hook安卓系统进程system_server的效果：

去hook：

- 类的全部函数
  - ActivityManager
- 类的部分函数
  - ProcessList
  - ActivityManagerService

命令：

```
frida-trace -U -n system_server --runtime=v8 -j '*ActivityManager!*' -j '*!startProcess
Locked' -j '*!handleProcessStartedLocked'
```

测试和触发：

测试了2次进程被杀和重启

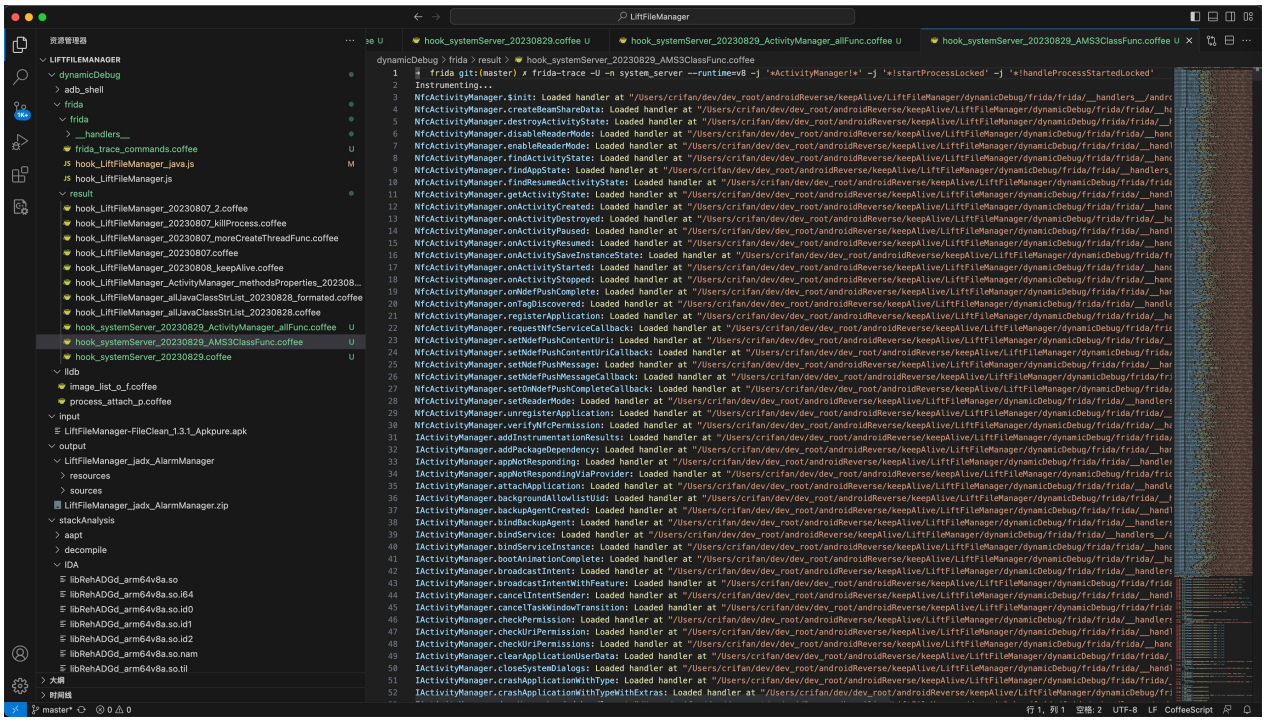
```
redfin:/ # ps -A | grep lift
u0_a243      14053 12478 14853776 110652 do_epoll_wait      0 S com.lift.filemanager.an
droid:sist
u0_a243      14380 12478 33445164 159208 do_epoll_wait      0 S com.lift.filemanager.an
droid
u0_a243      16957 12478 14876024 110164 do_epoll_wait      0 S com.lift.filemanager.an
droid:lift
u0_a243      20739 12478 14909548 110300 do_epoll_wait      0 S com.lift.filemanager.an
droid:dae
redfin:/ # kill 16957
redfin:/ # ps -A | grep lift
u0_a243      28151 26549 14881452 110076 do_epoll_wait      0 S com.lift.filemanager.an
droid:sist
u0_a243      28164 26549 14828204 109280 do_epoll_wait      0 S com.lift.filemanager.an
droid:dae
u0_a243      28337 26549 33535192 167804 do_epoll_wait      0 S com.lift.filemanager.an
droid
u0_a243      30398 26549 14895600 112296 do_epoll_wait      0 S com.lift.filemanager.an
droid:lift
redfin:/ # kill 28164
redfin:/ # ps -A | grep lift
u0_a243       2519 26549 14968296 108068 do_epoll_wait      0 S com.lift.filemanager.an
droid:dae
u0_a243      28151 26549 14881452 108304 do_epoll_wait      0 S com.lift.filemanager.an
droid:sist
u0_a243      28337 26549 33482836 166176 do_epoll_wait      0 S com.lift.filemanager.an
droid
u0_a243      30398 26549 14878116 110572 do_epoll_wait      0 S com.lift.filemanager.an
droid:lift
redfin:/ # kill 30398
```

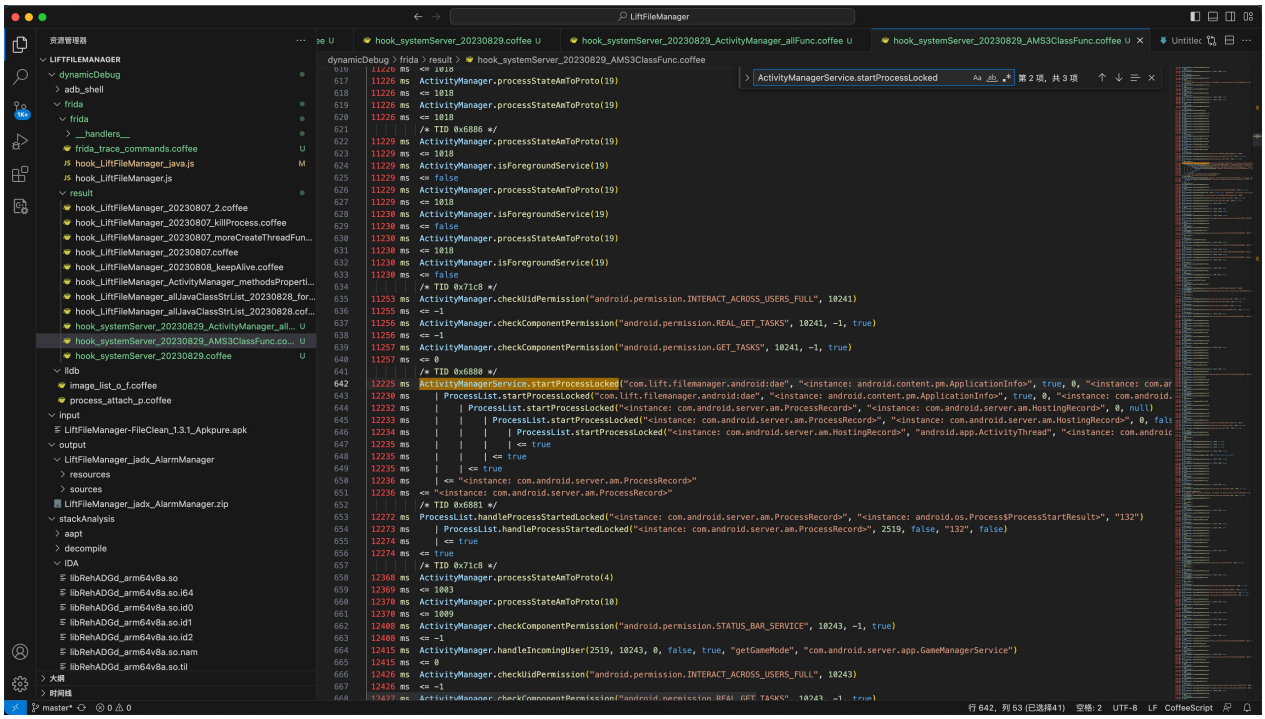
log：

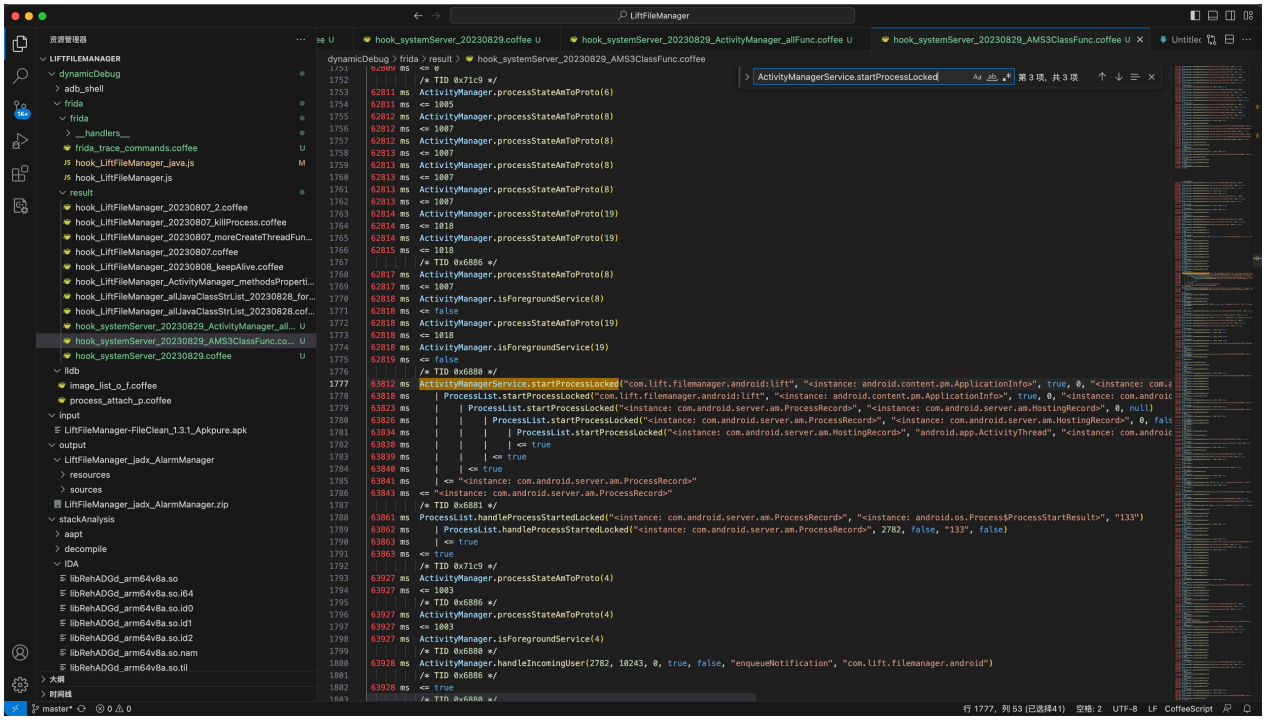
```
➜  frida git:(master) ✗ frida-trace -U -n system_server --runtime=v8 -j '*ActivityManag
er!*' -j '*!startProcessLocked' -j '*!handleProcessStartedLocked'
Instrumenting...
NfcActivityManager.$init: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/
keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/android.nfc.NfcActivity
Manager/_init.js"
...
IActivityManager.addInstrumentationResults: Loaded handler at "/Users/crifan/dev/dev_ro
ot/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/andro
id.app.IActivityManager/addInstrumentationResults.js"
...
ActivityManager.-$$Nest$smgetTaskService: Loaded handler at "/Users/crifan/dev/dev_root
/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/android
.app.ActivityManager/___Nest_smgetTaskService.js"
ActivityManager.$init: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/kee
pAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/android.app.ActivityManage
r/_init.js"
ActivityManager.broadcastStickyIntent: Loaded handler at "/Users/crifan/dev/dev_root/an
droidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/android.ap
p.ActivityManager/broadcastStickyIntent.js"
...
ActivityManagerService.startProcessLocked: Loaded handler at "/Users/crifan/dev/dev_roo
t/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/com.an
droid.server.am.ActivityManagerService/startProcessLocked.js"
Started tracing 375 functions. Press Ctrl+C to stop.
           /* TID 0x71c9 */
  1223 ms  ActivityManager.checkUidPermission("android.permission.INTERACT_ACROSS_USERS
_FULL", 10241)
  1227 ms  <= -1
...


 11257 ms  ActivityManager.checkComponentPermission("android.permission.GET_TASKS", 102
41, -1, true)
 11257 ms  <= 0
           /* TID 0x6880 */
 12225 ms  ActivityManagerService.startProcessLocked("com.lift.filemanager.android:dae"
, "<instance: android.content.pm.ApplicationInfo>", true, 0, "<instance: com.android.se
rver.am.HostingRecord>", 0, false, false)
 12230 ms      | ProcessList.startProcessLocked("com.lift.filemanager.android:dae", "<in
stance: android.content.pm.ApplicationInfo>", true, 0, "<instance: com.android.server.a
m.HostingRecord>", 0, false, false, 0, false, 0, null, null, null, null, null)
 12232 ms      |   | ProcessList.startProcessLocked("<instance: com.android.server.am.P
rocessRecord>", "<instance: com.android.server.am.HostingRecord>", 0, null)
 12233 ms      |   |   | ProcessList.startProcessLocked("<instance: com.android.server
.am.ProcessRecord>", "<instance: com.android.server.am.HostingRecord>", 0, false, false
, null)
 12234 ms      |   |   |   | ProcessList.startProcessLocked("<instance: com.android.s
erver.am.HostingRecord>", "android.app.ActivityThread", "<instance: com.android.server.
am.ProcessRecord>", 10243, [3002,3003,50243,20243,9997], 17377280, 0, 1, "default:targe
tSdkVersion=33:complete", "arm64-v8a", "arm64", null, "371714070", "371714070")
 12235 ms      |   |   |   | <= true
 12235 ms      |   |   | <= true
```

```
 12235 ms      |      | <= true
 12236 ms      | <= "<instance: com.android.server.am.ProcessRecord>"
 12236 ms  <= "<instance: com.android.server.am.ProcessRecord>"
           /* TID 0x6881 */
 12272 ms  ProcessList.handleProcessStartedLocked("<instance: com.android.server.am.Pro
cessRecord>", "<instance: android.os.Process$ProcessStartResult>", "132")
 12273 ms      | ProcessList.handleProcessStartedLocked("<instance: com.android.server.a
m.ProcessRecord>", 2519, false, "132", false)
 12274 ms      | <= true
 12274 ms  <= true
           /* TID 0x71c8 */
 12368 ms  ActivityManager.processStateAmToProto(4)

...


 62818 ms  ActivityManager.isForegroundService(8)
 62818 ms  <= false
 62818 ms  ActivityManager.processStateAmToProto(19)
 62818 ms  <= 1018
 62818 ms  ActivityManager.isForegroundService(19)
 62819 ms  <= false
           /* TID 0x6880 */
 63812 ms  ActivityManagerService.startProcessLocked("com.lift.filemanager.android:lift"
, "<instance: android.content.pm.ApplicationInfo>", true, 0, "<instance: com.android.se
rver.am.HostingRecord>", 0, false, false)
 63818 ms      | ProcessList.startProcessLocked("com.lift.filemanager.android:lift", "<i
nstance: android.content.pm.ApplicationInfo>", true, 0, "<instance: com.android.server.
am.HostingRecord>", 0, false, false, 0, false, 0, null, null, null, null, null)
 63823 ms      |      | ProcessList.startProcessLocked("<instance: com.android.server.am.P
rocessRecord>", "<instance: com.android.server.am.HostingRecord>", 0, null)
 63826 ms      |      |      | ProcessList.startProcessLocked("<instance: com.android.server
.am.ProcessRecord>", "<instance: com.android.server.am.HostingRecord>", 0, false, false
, null)
 63834 ms      |      |      |      | ProcessList.startProcessLocked("<instance: com.android.s
erver.am.HostingRecord>", "android.app.ActivityThread", "<instance: com.android.server.
am.ProcessRecord>", 10243, [3002,3003,50243,20243,9997], 17377280, 0, 1, "default:targe
tSdkVersion=33:complete", "arm64-v8a", "arm64", null, "371765665", "371765665")
 63838 ms      |      |      | <= true
 63839 ms      |      | <= true
 63840 ms      | <= true
 63841 ms      | <= "<instance: com.android.server.am.ProcessRecord>"
 63843 ms  <= "<instance: com.android.server.am.ProcessRecord>"
           /* TID 0x6881 */
 63861 ms  ProcessList.handleProcessStartedLocked("<instance: com.android.server.am.Pro
cessRecord>", "<instance: android.os.Process$ProcessStartResult>", "133")
 63862 ms      | ProcessList.handleProcessStartedLocked("<instance: com.android.server.a
m.ProcessRecord>", 2782, false, "133", false)
 63863 ms      | <= true
 63863 ms  <= true
           /* TID 0x71c9 */
 63927 ms  ActivityManager.processStateAmToProto(4)
...
```

截图：


LiftFileManager
资源管理器
LIFTFILEMANAGER
dynamicDebug
adb_shell
frida
__handlers__
frida_trace_commands.coffee
hook_LiftFileManager_java.js
hook_LiftFileManager.js
result
hook_LiftFileManager_20230807_2.coffee
hook_LiftFileManager_20230807_killProcess.coffee
hook_LiftFileManager_20230807_moreCreateThreadFunc.coffee
hook_LiftFileManager_20230807.coffee
hook_LiftFileManager_20230808_keepAlive.coffee
hook_LiftFileManager_ActivityManager_methodsProperties_202308...
hook_LiftFileManager_allJavaClassStrList_20230828_formated.coffee
hook_LiftFileManager_allJavaClassStrList_20230828.coffee
hook_systemServer_20230829_ActivityManager_allFunc.coffee
hook_systemServer_20230829_AMS3ClassFunc.coffee
hook_systemServer_20230829.coffee
lldb
image_list_o_f.coffee
process_attach_p.coffee
input
LiftFileManager-FileClean_1.3.1_Apkpure.apk
output
LiftFileManager_jadx_AlarmManager
resources
sources
LiftFileManager_jadx_AlarmManager.zip
stackAnalysis
aapt
decompile
IDA
libRehADGd_arm64v8a.so
libRehADGd_arm64v8a.so.i64
libRehADGd_arm64v8a.so.id0
libRehADGd_arm64v8a.so.id1
libRehADGd_arm64v8a.so.id2
libRehADGd_arm64v8a.so.nam
libRehADGd_arm64v8a.so.til
大纲
时间线
hook_systemServer_20230829.coffee
hook_systemServer_20230829_ActivityManager_allFunc.coffee
hook_systemServer_20230829_AMS3ClassFunc.coffee
dynamicDebug > frida > result > hook_systemServer_20230829_AMS3ClassFunc.coffee
frida git:(master) ✗ frida-trace -U -n system_server --runtime=v8 -j '*ActivityManager!*' -j '*!startProcessLocked' -j '*!handleProcessStartedLocked'
Instrumenting...
NfcActivityManager.$init: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/andr
NfcActivityManager.createBeamShareData: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__ha
NfcActivityManager.destroyActivityState: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__h
NfcActivityManager.disableReaderMode: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
NfcActivityManager.enableReaderMode: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handl
NfcActivityManager.findActivityState: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
NfcActivityManager.findAppState: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__
NfcActivityManager.findResumedActivityState: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida
NfcActivityManager.getActivityState: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handl
NfcActivityManager.onActivityCreated: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
NfcActivityManager.onActivityDestroyed: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__ha
NfcActivityManager.onActivityPaused: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handl
NfcActivityManager.onActivityResumed: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
NfcActivityManager.onActivitySaveInstanceState: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/fr
NfcActivityManager.onActivityStarted: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
NfcActivityManager.onActivityStopped: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
NfcActivityManager.onNdefPushComplete: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__har
NfcActivityManager.onTagDiscovered: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handle
NfcActivityManager.registerApplication: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__ha
NfcActivityManager.requestNfcServiceCallback: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/fric
NfcActivityManager.setNdefPushContentUri: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__
NfcActivityManager.setNdefPushContentUriCallback: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/
NfcActivityManager.setNdefPushMessage: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__har
NfcActivityManager.setNdefPushMessageCallback: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/fri
NfcActivityManager.setOnNdefPushCompleteCallback: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/
NfcActivityManager.setReaderMode: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers
NfcActivityManager.unregisterApplication: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__
NfcActivityManager.verifyNfcPermission: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__ha
IActivityManager.addInstrumentationResults: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida
IActivityManager.addPackageDependency: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__har
IActivityManager.appNotResponding: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handler
IActivityManager.appNotRespondingViaProvider: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/fric
IActivityManager.attachApplication: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handle
IActivityManager.backgroundAllowlistUid: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__h
IActivityManager.backupAgentCreated: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handl
IActivityManager.bindBackupAgent: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers
IActivityManager.bindService: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers__/a
IActivityManager.bindServiceInstance: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
IActivityManager.bootAnimationComplete: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__ha
IActivityManager.broadcastIntent: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers
IActivityManager.broadcastIntentWithFeature: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida
IActivityManager.cancelIntentSender: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handl
IActivityManager.cancelTaskWindowTransition: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida
IActivityManager.checkPermission: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handlers
IActivityManager.checkUriPermission: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handl
IActivityManager.checkUriPermissions: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__hanc
IActivityManager.clearApplicationUserData: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/
IActivityManager.closeSystemDialogs: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/__handl
IActivityManager.crashApplicationWithType: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/frida/frida/
IActivityManager.crashApplicationWithTypeWithExtras: Loaded handler at "/Users/crifan/dev/dev_root/androidReverse/keepAlive/LiftFileManager/dynamicDebug/fri
master*
行 1，列 1
空格: 2
UTF-8
LF
CoffeeScript


LiftFileManager
资源管理器
LIFTFILEMANAGER
dynamicDebug > frida > result > hook_systemServer_20230829_AMS3ClassFunc.coffee
ActivityManagerService.startProcessLocked
第 2 项，共 3 项
11226 ms ActivityManager.processStateAmToProto(19)
11226 ms <= 1018
11226 ms ActivityManager.processStateAmToProto(19)
11226 ms <= 1018
/* TID 0x6886 */
11229 ms ActivityManager.processStateAmToProto(19)
11229 ms <= 1018
11229 ms ActivityManager.isForegroundService(19)
11229 ms <= false
11229 ms ActivityManager.processStateAmToProto(19)
11229 ms <= 1018
11230 ms ActivityManager.isForegroundService(19)
11230 ms <= false
11230 ms ActivityManager.processStateAmToProto(19)
11230 ms <= 1018
11230 ms ActivityManager.isForegroundService(19)
11230 ms <= false
/* TID 0x71c8 */
11253 ms ActivityManager.checkUidPermission("android.permission.INTERACT_ACROSS_USERS_FULL", 10241)
11255 ms <= -1
11256 ms ActivityManager.checkComponentPermission("android.permission.REAL_GET_TASKS", 10241, -1, true)
11256 ms <= -1
11257 ms ActivityManager.checkComponentPermission("android.permission.GET_TASKS", 10241, -1, true)
11257 ms <= 0
/* TID 0x6880 */
12225 ms ActivityManagerService.startProcessLocked("com.lift.filemanager.android:dae", "<instance: android.content.pm.ApplicationInfo>", true, 0, "<instance: com.ar
12230 ms | ProcessList.startProcessLocked("com.lift.filemanager.android:dae", "<instance: android.content.pm.ApplicationInfo>", true, 0, "<instance: com.android.
12232 ms | | ProcessList.startProcessLocked("<instance: com.android.server.am.ProcessRecord>", "<instance: com.android.server.am.HostingRecord>", 0, null)
12233 ms | | | ProcessList.startProcessLocked("<instance: com.android.server.am.ProcessRecord>", "<instance: com.android.server.am.HostingRecord>", 0, fals
12234 ms | | | | ProcessList.startProcessLocked("<instance: com.android.server.am.HostingRecord>", "android.app.ActivityThread", "<instance: com.androic
12235 ms | | | | <= true
12235 ms | | | <= true
12235 ms | | <= true
12236 ms | <= "<instance: com.android.server.am.ProcessRecord>"
12236 ms <= "<instance: com.android.server.am.ProcessRecord>"
/* TID 0x6881 */
12272 ms ProcessList.handleProcessStartedLocked("<instance: com.android.server.am.ProcessRecord>", "<instance: android.os.Process$ProcessStartResult>", "132")
12273 ms | ProcessList.handleProcessStartedLocked("<instance: com.android.server.am.ProcessRecord>", 2519, false, "132", false)
12274 ms | <= true
12274 ms <= true
/* TID 0x71c8 */
12368 ms ActivityManager.processStateAmToProto(4)
12369 ms <= 1003
12370 ms ActivityManager.processStateAmToProto(10)
12370 ms <= 1009
12408 ms ActivityManager.checkComponentPermission("android.permission.STATUS_BAR_SERVICE", 10243, -1, true)
12408 ms <= -1
12415 ms ActivityManager.handleIncomingUser(2519, 10243, 0, false, true, "getGameMode", "com.android.server.app.GameManagerService")
12415 ms <= 0
12426 ms ActivityManager.checkUidPermission("android.permission.INTERACT_ACROSS_USERS_FULL", 10243)
12426 ms <= -1
12427 ms ActivityManager.checkComponentPermission("android.permission.REAL_GET_TASKS", 10243, -1, true)
master*
行 642，列 53 (已选择41)
空格: 2
UTF-8
LF
CoffeeScript



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Frida工具类函数

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通用js函数

此处整理Frida的js中，通用的js方面的函数：

小的代码段

判断字符串是否在dict的key中

- 判断key是否在字典dict中

```
curKey in someDict
```

举例：

```
let cfgPrintOnceStackExceptionDict = {
    // key: arg list(arg0, arg1, ...)
    "+[NSURLRequest requestWithURL:]": [],
    "+[WAURLQueryItem queryItemWithName:value:]": ["ENC", undefined],
}

var iOSObjCallStr = "+[WAURLQueryItem queryItemWithName:value:]"
var isMatch = iOSObjCallStr in cfgPrintOnceStackExceptionDict
console.log("isMatch=" + isMatch)
```

输出：`isMatch=true`

获取列表的子列表

```
var argList = [0, 1, 2, 3, 4]
var subArgList = argList.slice(2)
console.log("argList=" + argList + " -> subArgList=" + subArgList)
```

输出：

```
argList=0,1,2,3,4 -> subArgList=2,3,4
```

对象=Object: Dict/List/...

`toJsonStr`：转换成JSON字符串（用于打印js对象）

```
// convert Object(dict/list/...) to JSON string
function toJsonStr(curObj, singleLine=false, space=2){
  // console.log("toJsonStr: singleLine=" + singleLine)
  // var jsonStr = JSON.stringify(curObj, null, 2)
  var jsonStr = JSON.stringify(curObj, null, space)
  if(singleLine) {
```

```
    // jsonStr = jsonStr.replace(/\\n/g, '')
    jsonStr = jsonStr.replace(/\n/g, '')
  }
  return jsonStr
  // return curObj.toString()
}
```

用法举例：

```
console.log("Add: address=" + address + ", moduleInfoDict=" + toJsonStr(moduleInfoDict)
+ " into cache gAddrToModuleInfoDict")
```

输出：

```
[*] Add: address=0x1098ad910, moduleInfoDict={
  "fileName": "/private/var/containers/Bundle/Application/02BED373-87F5-4B48-9F4B-70E85
3B20267/WhatsApp.app/Frameworks/SharedModules.framework/SharedModules",
  "fileAddress": "0x108c84000",
  "symbolName": "WAGetWCIHttpImpl",
  "symbolAddress": "0x1098abad0"
} into cache gAddrToModuleInfoDict
```

String字符串

`occurrences`：字符串搜索

```
/** Function that count occurrences of a substring in a string;
 * @param {String} string               The string
 * @param {String} subString            The sub string to search for
 * @param {Boolean} [allowOverlapping]  Optional. (Default:false)
 *
 * @author Vitim.us https://gist.github.com/victornpb/7736865
 * @see Unit Test https://jsfiddle.net/Victornpb/5axuh96u/
 * @see https://stackoverflow.com/a/7924240/938822
 * @example occurrences("- setExportedObject:", ":") => 1
 */
function occurrences(string, subString, allowOverlapping) {
    // console.log("string=" + string + ",subString=" + subString + ", allowOverlapping
=" + allowOverlapping)
    string += "";
    subString += "";
    if (subString.length <= 0) return (string.length + 1);

    var n = 0,
        pos = 0,
        step = allowOverlapping ? 1 : subString.length;

    while (true) {
        pos = string.indexOf(subString, pos);
        // console.log("pos=" + pos)
```

```
        if (pos >= 0) {
            ++n;
            pos += step;
        } else break;
    }

    return n;
}
```

用法举例：

```
const argSel = args[1];
console.log("argSel: ", argSel);
const argSelStr = ObjC.selectorAsString(argSel);
console.log("argSelStr: ", argSelStr);

const argCount = occurrences(argSelStr, ":");
console.log("argCount: ", argCount);
```

输出：

```
argSel:  0x19cf48d27
argSelStr:  fileURLWithPath:isDirectory:
argCount:  2
```

含义：

（iOS的ObjC中的SEL）字符串：`fileURLWithPath:isDirectory:` 中有2个冒号 `:`

String - Log日志

```
// Generate single line log string
// input: logStr="Called: -[NSURLRequest initWithURL:]"
// output: "============================== Called: -[NSURLRequest initWithURL:] ======
========================="
// function generateLineStr(logStr, isWithSpace=true, paddingChar="=", lineWidth=80){
function generateLineStr(logStr, isWithSpace=true, paddingChar="=", lineWidth=100){
// function generateLineStr(logStr, isWithSpace=true, paddingChar="=", lineWidth=120){
    // console.log("logStr=" + logStr, ", isWithSpace=" + isWithSpace + ", paddingChar=
" + paddingChar + ", lineWidth=" + lineWidth)
    var lineStr = ""

    var realLogStr = ""
    if (isWithSpace) {
        realLogStr = " " + logStr + " "
    } else {
        realLogStr = logStr
    }

    var realLogStrLen = realLogStr.length
    if ((realLogStrLen % 2) > 0){
        realLogStr += " "
```

```
        realLogStrLen = realLogStr.length
    }

    var leftRightPaddingStr = ""
    var paddingLen = lineWidth - realLogStrLen
    if (paddingLen > 0) {
        var leftRightPaddingLen = paddingLen / 2
        leftRightPaddingStr = times(paddingChar, leftRightPaddingLen)
    }

    lineStr = leftRightPaddingStr + realLogStr + leftRightPaddingStr

    // console.log("lineStr:\n" + lineStr)
    return lineStr
}
```

用法举例：

```
var logStr = "Called: -[NSURLRequest initWithURL:]"
generateLineStr(logStr)
```

输出：

```
============================== Called: -[NSURLRequest initWithURL:] ================
=============
```

其他输出举例：

```
=========== Called: +[WARegistrationURLBuilder preChatdABPropURLWithPhoneNumber:abHash:]
 ===========

============================== Called: +[NSURLRequest requestWithURL:] ===============
=============
```

times：字符串相乘

代码：

```
// String multiple
// eg: str="=", num=5 => "=====" 
function times(str, num){
    return new Array(num + 1).join(str)
}
```

用法举例：

```
var paddingChar = "-"
var leftRightPaddingLen = 10
var leftRightPaddingStr = times(paddingChar, leftRightPaddingLen)
```

```
console.log(leftRightPaddingStr)
```

输出：

```
----------
```

List列表

isItemInList：判断元素是否在列表中

```
// check whether is item inside the list
// eg: curItem="abc", curList=["abc", "def"] => true
function isItemInList(curItem, curList){
    // method1:
    return curList.includes(curItem)
    // // method2:
    // return curList.indexOf(curItem) > -1
}
```

用法举例：

```
var iOSObjCallStr = "+[NSURLRequest requestWithURL:]"
let cfgPrintOnceStackExceptionList = [
    "+[NSURLRequest requestWithURL:]",
]

console.log(isItemInList(iOSObjCallStr, cfgPrintOnceStackExceptionList))
```

输出：

```
true
```

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Frida的js通用函数

objcArgsToArgArray

```
/* Convert args to real Javascript Array

    Note:
        Interceptor.attach onEnter(args), args is not real JS array -> later operation
will fail
            args.slice(2)
            Array.from(args)
        -> so need here to conver to real Array, then all is OK
*/
function objcArgsToArgArray(args, realArgCount){
    var argsArr = Array()
    // console.log("initial: argsArr=" + argsArr)
    argsArr.push(args[0])
    argsArr.push(args[1])
    // console.log("add frist two: argsArr=" + argsArr)

    for (let curArgIdx = 0; curArgIdx < realArgCount; curArgIdx++) {
        const curArg = args[curArgIdx + 2]
        argsArr.push(curArg)
    }
    // console.log("add all args: argsArr=" + argsArr)
    return argsArr
}
```

用法举例：

```
Interceptor.attach(curMethod.implementation, {
  onEnter: function(args) {
    const realArgCount = occurrences(funcName, ":")
    console.log("realArgCount: " + realArgCount)

    args = objcArgsToArgArray(args, realArgCount)
```

效果：

```
// 后续针对js的Array的args去操作，就不会报错了
var realArgList = args.slice(2)
```

详见：

- 【已解决】iOS逆向WhatsApp：Frida的js的函数堆栈打印优化：支持特定函数的特定参数值时打印
- 【已解决】Frida中js去获取Interceptor.attach的onEnter的args时报错：RangeError invalid array index

isValidPointer：判断指针是否有效

- 背景：
  - 正常的指针值：
    - `0x194d20320`
    - `0x103e79420`
    - `0x2831ac880`
  - 异常的一些指针指：
    - 0x0
    - 0xc

代码：

```
// check pointer is valid or not
// example
//         0x103e79560 => true
//         0xc => false
function isValidPointer(curPtr){
    let MinValidPointer = 0x10000
    var isValid = curPtr > MinValidPointer
    return isValid
}
```

用法举例：

```
console.log(isValidPointer(0xc))
```

输出：

```
false
```

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iOS函数

此处整理Frida的js中，iOS（的OjbC）方面的函数：

`objcObjToStr`：ObjC的Object转换为C的string

```
// convert ObjC Object to C string
function objcObjToStr(objcObj){
  return objcObj.toString()
}
```

`nsStrToJsStr`：NSString转换为js的String

代码：

```
// NSString instance -> js string
function nsStrToJsStr(curNsStr){
  // method 1
  return curNsStr.UTF8String()
  // // method 2:
  // const NSUTF8StringEncoding = 4;
  // https://developer.apple.com/documentation/foundation/nsstring/1408489-cstringusing
encoding?language=objc
  // return curNsStr.cStringUsingEncoding_(NSUTF8StringEncoding)
}
```

用法举例：

```
const connnServiceNameNSStr = nsxpcconnectionObj.serviceName();
const connnServiceNameJsStr = nsStrToJsStr(connnServiceNameNSStr)
console.log("connnServiceNameNSStr: ", connnServiceNameNSStr);
console.log("connnServiceNameJsStr: ", connnServiceNameJsStr);
```

输出：

```
connnServiceNameNSStr:  com.apple.ak.auth.xpc
connnServiceNameJsStr:  com.apple.ak.auth.xpc
```

`toiOSObjcCall`：把Firda的ObjC函数写法，转换成ObjC的函数写法

```
// convert from frida function call to ObjC function call
// "NSURL", "- initWithString:" => "-[NSURL initWithString:]"
function toiOSObjcCall(class_name, method_name){
    const instanceCallStart = "-[" + class_name + " ";
```

```
    const classCallStart = "+[" + class_name + " ";
    var objcFuncCall = method_name.replace("- ", instanceCallStart);
    objcFuncCall = objcFuncCall.replace("+ ", classCallStart);
    objcFuncCall = objcFuncCall + "]";
    // console.log(class_name + " -> " + method_name + " => " + objcFuncCall);
    return objcFuncCall;
}
```

用法举例：

```
function hook_specific_method_of_class(className, funcName)
{
  console.log("className=" + className + ", funcName=" + funcName)
  var iOSObjCallStr = toiOSObjcCall(className, funcName)
  console.log("iOSObjCallStr=", iOSObjCallStr)
  ...
```

输出：

```
className= NSXPCConnection, funcName= - setExportedObject:
iOSObjCallStr= -[NSXPCConnection setExportedObject:]
```

其他举例：

- `"NSURL", "- _cfurl" => "-[NSURL _cfurl]"`
- `"NSURL", "+ fileURLWithPath:isDirectory:" => +[NSURL fileURLWithPath:isDirectory:]`
- `"NSURL", "- initFileURLWithPath:isDirectory:" => "-[NSURL initFileURLWithPath:isDirectory:]"`

`toFridaObjcCall`：把ObjC函数写法，转换成Frida的ObjC函数写法

```
// convert from ObjC function call to frida function call
// "-[NSURL initWithString:]" => ["NSURL", "- initWithString:"]
function toFridaObjcCall(fridaObjcCallStr){
    // console.log("fridaObjcCallStr=" + fridaObjcCallStr)
    const funcCallP = /^([+-])\[(\w+)\s+([\w:]+)\]$/
    // console.log("funcCallP=" + funcCallP)
    const funcCallMatch = fridaObjcCallStr.match(funcCallP)
    // console.log("funcCallMatch=" + funcCallMatch)
    const objcFuncTypeChar = funcCallMatch[1]
    const objcClassName = funcCallMatch[2]
    const objcFuncName = funcCallMatch[3]
    const fridaFuncCallList = [objcClassName, objcFuncTypeChar + " " + objcFuncName]
    // console.log("fridaFuncCallList=" + fridaFuncCallList)
    return fridaFuncCallList
}
```

用法举例：

- 输入
  - `"+[NSURL URLWithString:]"`
  - `"-[NSURLConnection start]"`
  - `"-[NSURL initWithString:relativeToURL:]"`
- 输出
  - `["NSURL", "+ URLWithString:"]`
  - `["NSURLConnection", "- start"]`
  - `["NSURL", "- initWithString:relativeToURL:"]`

`initCommonLibFunctions`：初始化常用库中的常用函数

代码：

```
/*****************************************************************************
 * Global Variables
*****************************************************************************/

var free = null
var objc_getClass = null
var class_copyMethodList = null
var objc_getMetaClass = null
var method_getName = null
var dladdr = null
var _dyld_image_count = null
var _dyld_get_image_name = null
var _dyld_get_image_vmaddr_slide = null
var objc_copyClassNamesForImage = null


/******************** iOS Common Lib Functions ********************/

function initCommonLibFunctions(){
    console.log("Init common functions in common libs:")

// free
    free = new NativeFunction(
        Module.findExportByName(null, 'free'),
        'void',
        ['pointer']
    )
    console.log("free=" + free)

    objc_getClass = new NativeFunction(
        Module.findExportByName(null, 'objc_getClass'),
        'pointer',
        ['pointer']
    )
    console.log("objc_getClass=" + objc_getClass)

    class_copyMethodList = new NativeFunction(
        Module.findExportByName(null, 'class_copyMethodList'),
        'pointer',
```

```
        ['pointer', 'pointer']
    )
    console.log("class_copyMethodList=" + class_copyMethodList)

    objc_getMetaClass = new NativeFunction(
        Module.findExportByName(null, 'objc_getMetaClass'),
        'pointer',
        ['pointer']
    )
    console.log("objc_getMetaClass=" + objc_getMetaClass)

    method_getName = new NativeFunction(
        Module.findExportByName(null, 'method_getName'),
        'pointer',
        ['pointer']
    )
    console.log("method_getName=" + method_getName)

    /*
    int dladdr(const void *, Dl_info *);

    typedef struct dl_info {
                    const char      *dli_fname;     // Pathname of shared object
                    void            *dli_fbase;     // Base address of shared object
                    const char      *dli_sname;     // Name of nearest symbol
                    void            *dli_saddr;     // Address of nearest symbol
    } Dl_info;

    */
    dladdr = new NativeFunction(
        Module.findExportByName(null, 'dladdr'),
        'int',
        ['pointer','pointer']
    )
    console.log("dladdr=" + dladdr)

    // uint32_t  _dyld_image_count(void)
    _dyld_image_count = new NativeFunction(
        Module.findExportByName(null, '_dyld_image_count'),
        'uint32',
        []
    )
    console.log("_dyld_image_count=" + _dyld_image_count)

    // const char*  _dyld_get_image_name(uint32_t image_index)
    _dyld_get_image_name = new NativeFunction(
        Module.findExportByName(null, '_dyld_get_image_name'),
        'pointer',
        ['uint32']
    )
    console.log("_dyld_get_image_name=" + _dyld_get_image_name)


    // intptr_t   _dyld_get_image_vmaddr_slide(uint32_t image_index)
    _dyld_get_image_vmaddr_slide = new NativeFunction(
        Module.findExportByName(null, '_dyld_get_image_vmaddr_slide'),
```

```
        'pointer',
        ['uint32']
    )
    console.log("_dyld_get_image_vmaddr_slide=" + _dyld_get_image_vmaddr_slide)

    // const char * objc_copyClassNamesForImage(const char *image, unsigned int *outCou
nt)
    objc_copyClassNamesForImage = new NativeFunction(
        Module.findExportByName(null, 'objc_copyClassNamesForImage'),
        'pointer',
        ['pointer', 'pointer']
    );
    console.log("objc_copyClassNamesForImage=" + objc_copyClassNamesForImage)
}
```

用法举例：

```
/*****************************************************************************
 * Main
*****************************************************************************/
initCommonLibFunctions()
```

输出：

```
Init common functions in common libs:
free: 0x190f57f10
objc_getClass: 0x190f9c098
class_copyMethodList: 0x190f96cf8
objc_getMetaClass: 0x190f9c100
method_getName: 0x190f93b54
dladdr: 0x191068174
_dyld_image_count: 0x191067b40
_dyld_get_image_name: 0x19106806c
_dyld_get_image_vmaddr_slide: 0x191068004
objc_copyClassNamesForImage: 0x190f97e68
```

说明：

后续其他地方，即可调用这些函数：

```
    free(pClasses)
...

function get_info_form_address(address){
...
    var dl_info = Memory.alloc(Process.pointerSize*4);
    dladdr(ptr(address), dl_info)
```

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iOS函数调用堆栈

对于Frida中，打印iOS函数调用堆栈，此处整理出2个函数：

- 地址版本 = 精简版： `printFunctionCallStack_addr`
  - 解释：（尤其是对于自己的二进制）只能输出地址，无法输出完整精确的符号名
    - 优点：代码简洁
    - 缺点：只有地址，没有符号，不够用
- 符号版本 = 详细版： `printFunctionCallStack_symbol`
  - 解释：从地址解析后得到准确的符号=函数名的版本
    - 优点：能看到函数名=解析后的符号名，更好用
    - 缺点：代码比较多比较复杂
  - 包括子函数
    - `get_image_vm_slide`
    - `get_all_objc_class`
    - `get_all_class_methods`
    - `get_info_form_address`
    - `find_symbol_from_address`
  - 说明
    - 参考自
      - https://github.com/4ch12dy/FridaLib/blob/master/iOS/iOSFridaLib.js
    - 且做了额外优化
      - 加上cache缓存，提高解析速度

printFunctionCallStack_addr

```
function printFunctionCallStack_addr(curContext){
    console.log('Stack:\n' +
        Thread.backtrace(curContext, Backtracer.ACCURATE)
        .map(DebugSymbol.fromAddress).join('\n') + '\n');
}
```

用法举例：

```
Interceptor.attach(curMethod.implementation, {
  onEnter: function(args) {
    printFunctionCallStack_addr(this.context)
```

输出：

```
Stack:
0x109afd910 SharedModules WAGetWCIHttpImpl
0x106a14cb4  0x2304cb4 (0x102304cb4)
0x1062e9ff4  0x1bd9ff4 (0x101bd9ff4)
0x1062e9f80  0x1bd9f80 (0x101bd9f80)
0x1069da1fc  0x22ca1fc (0x1022ca1fc)
```

```
0x1069d9ee4  0x22c9ee4 (0x1022c9ee4)
0x1069d16a8  0x22c16a8 (0x1022c16a8)
0x1952e99ac UIKitCore -[UIApplication sendAction:to:from:forEvent:]
0x194d1ffbc UIKitCore -[UIControl sendAction:to:forEvent:]
0x194d20320 UIKitCore -[UIControl _sendActionsForEvents:withEvent:]
0x194d1f33c UIKitCore -[UIControl touchesEnded:withEvent:]
0x195323050 UIKitCore -[UIWindow _sendTouchesForEvent:]
0x195324390 UIKitCore -[UIWindow sendEvent:]
0x195300a9c UIKitCore -[UIApplication sendEvent:]
0x1061487b8  0x1a387b8 (0x101a387b8)
0x195378c20 UIKitCore __dispatchPreprocessedEventFromEventQueue
```

printFunctionCallStack_symbol

代码：

```
/*******************************************************************************
 * Config && Settings
*******************************************************************************/

// Print Function Stack Call
let isUseCache = true

// print only once stack for every function
let isPrintOnlyOnceStack = true

let cfgPrintOnceStackExceptionList = [
    "+[NSURLRequest requestWithURL:]",
]

/*******************************************************************************
 * Global Variables
*******************************************************************************/

var gPrintedStackDict = {}

var gAddrToModuleInfoDict = {}
var gModulePathToSlideDict = {}
var gModulePathToClassesDict = {}
var gModulePathAddrToSymbolDict = {}
var gClassnameToAllMethodsDict = {}


var free = null
var objc_getClass = null
var class_copyMethodList = null
var objc_getMetaClass = null
var method_getName = null
var dladdr = null
var _dyld_image_count = null
var _dyld_get_image_name = null
var _dyld_get_image_vmaddr_slide = null
var objc_copyClassNamesForImage = null
```

```
/******************** iOS Common Lib Functions ********************/

function initCommonLibFunctions(){
    console.log("Init common functions in common libs:")

    // free
    free = new NativeFunction(
        Module.findExportByName(null, 'free'),
        'void',
        ['pointer']
    )
    console.log("free=" + free)

    objc_getClass = new NativeFunction(
        Module.findExportByName(null, 'objc_getClass'),
        'pointer',
        ['pointer']
    )
    console.log("objc_getClass=" + objc_getClass)

    class_copyMethodList = new NativeFunction(
        Module.findExportByName(null, 'class_copyMethodList'),
        'pointer',
        ['pointer', 'pointer']
    )
    console.log("class_copyMethodList=" + class_copyMethodList)

    objc_getMetaClass = new NativeFunction(
        Module.findExportByName(null, 'objc_getMetaClass'),
        'pointer',
        ['pointer']
    )
    console.log("objc_getMetaClass=" + objc_getMetaClass)

    method_getName = new NativeFunction(
        Module.findExportByName(null, 'method_getName'),
        'pointer',
        ['pointer']
    )
    console.log("method_getName=" + method_getName)

    /*
    int dladdr(const void *, Dl_info *);

    typedef struct dl_info {
                    const char      *dli_fname;     // Pathname of shared object
                    void            *dli_fbase;     // Base address of shared object
                    const char      *dli_sname;     // Name of nearest symbol
                    void            *dli_saddr;     // Address of nearest symbol
    } Dl_info;

    */
    dladdr = new NativeFunction(
        Module.findExportByName(null, 'dladdr'),
        'int',
```

```
        ['pointer','pointer']
    )
    console.log("dladdr=" + dladdr)

    // uint32_t  _dyld_image_count(void)
    _dyld_image_count = new NativeFunction(
        Module.findExportByName(null, '_dyld_image_count'),
        'uint32',
        []
    )
    console.log("_dyld_image_count=" + _dyld_image_count)

    // const char*  _dyld_get_image_name(uint32_t image_index)
    _dyld_get_image_name = new NativeFunction(
        Module.findExportByName(null, '_dyld_get_image_name'),
        'pointer',
        ['uint32']
    )
    console.log("_dyld_get_image_name=" + _dyld_get_image_name)


    // intptr_t   _dyld_get_image_vmaddr_slide(uint32_t image_index)
    _dyld_get_image_vmaddr_slide = new NativeFunction(
        Module.findExportByName(null, '_dyld_get_image_vmaddr_slide'),
        'pointer',
        ['uint32']
    )
    console.log("_dyld_get_image_vmaddr_slide=" + _dyld_get_image_vmaddr_slide)

    // const char * objc_copyClassNamesForImage(const char *image, unsigned int *outCou
nt)
    objc_copyClassNamesForImage = new NativeFunction(
        Module.findExportByName(null, 'objc_copyClassNamesForImage'),
        'pointer',
        ['pointer', 'pointer']
    );
    console.log("objc_copyClassNamesForImage=" + objc_copyClassNamesForImage)
}

// https://github.com/4ch12dy/FridaLib/blob/master/iOS/iOSFridaLib.js

// xia0 log
function XLOG(log) {
    console.log("[*] " + log)
}

// format string with width
function format(str,width){
    str = str + ""
    var len = str.length;

    if(len > width){
            return str
    }

    for(var i = 0; i < width len; i++){
```

```
            str += " "
    }
    return str
}

function getExecFileName(modulePath){
    modulePath += ""
    return modulePath.split("/").pop()
}

// get module info from address
function get_info_form_address(address){
    var moduleInfoDict = null
    var needAddToCache = false

    if (isUseCache){
        if (address in gAddrToModuleInfoDict){
            moduleInfoDict = gAddrToModuleInfoDict[address]
            // XLOG("Found: address=" + address + " in gAddrToModuleInfoDict, moduleInf
oDict=" + toJsonStr(moduleInfoDict))
            return moduleInfoDict
        } else {
            needAddToCache = true
        }
    }

    var dl_info = Memory.alloc(Process.pointerSize*4);

    dladdr(ptr(address), dl_info)

    var dli_fname = Memory.readCString(Memory.readPointer(dl_info))
    var dli_fbase = Memory.readPointer(dl_info.add(Process.pointerSize))
    var dli_sname = Memory.readCString(Memory.readPointer(dl_info.add(Process.pointerSi
ze*2)))
    var dli_saddr = Memory.readPointer(dl_info.add(Process.pointerSize*3))

    //XLOG("dli_fname:"+dli_fname)
    //XLOG("dli_fbase:"+dli_fbase)
    //XLOG("dli_sname:"+dli_sname)
    //XLOG("dli_saddr:"+dli_saddr)

    // var addrInfo = new Array();

    // addrInfo.push(dli_fname);
    // addrInfo.push(dli_fbase);
    // addrInfo.push(dli_sname);
    // addrInfo.push(dli_saddr);

    // //XLOG(addrInfo)
    // return addrInfo;

    moduleInfoDict = {
        "fileName": dli_fname,
        "fileAddress": dli_fbase,
        "symbolName": dli_sname,
        "symbolAddress": dli_saddr,
```

```
    }

    if (needAddToCache){
        // XLOG("Add: address=" + address + ", moduleInfoDict=" + toJsonStr(moduleInfoD
ict) + " into cache gAddrToModuleInfoDict")
        gAddrToModuleInfoDict[address] = moduleInfoDict
    }

    return moduleInfoDict
}

function get_image_vm_slide(modulePath){
    var moduleSlide = 0

    var needAddToCache = false

    if (isUseCache){
        if (modulePath in gModulePathToSlideDict){
            moduleSlide = gModulePathToSlideDict[modulePath]
            // XLOG("Found: modulePath=" + modulePath + " in gModulePathToSlideDict, mo
duleSlide=" + moduleSlide)
            return moduleSlide
        } else {
            needAddToCache = true
        }
    }

    var image_count = _dyld_image_count()

    for (var i = 0; i < image_count; i++) {
            var image_name_ptr = _dyld_get_image_name(i)
            var image_silde_ptr = _dyld_get_image_vmaddr_slide(i)
            var image_name = Memory.readUtf8String(image_name_ptr)

            if (image_name == modulePath) {
                    //XLOG(Memory.readUtf8String(image_name_ptr) + " slide:"+image_sild
e_ptr)
                    // return image_silde_ptr
                    moduleSlide = image_silde_ptr
                    break
            }
            //XLOG(Memory.readUtf8String(image_name_ptr) + "slide:"+image_silde_ptr)
    }

    // return 0

    if (needAddToCache){
        // XLOG("Add: modulePath=" + modulePath + ", moduleSlide=" + moduleSlide + " in
to cache gModulePathToSlideDict")
        gModulePathToSlideDict[modulePath] = moduleSlide
    }

    return moduleSlide
}
```

```
function get_all_objc_class(modulePath){
    var classes = new Array()

    var needAddToCache = false

    if (isUseCache){
        if (modulePath in gModulePathToClassesDict){
            classes = gModulePathToClassesDict[modulePath]
            // XLOG("Found: modulePath=" + modulePath + " in gModulePathToClassesDict,
classes=" + classes)
            // XLOG("Found: modulePath=" + modulePath + " in gModulePathToClassesDict,
classes.length=" + classes.length)
            return classes
        } else {
            needAddToCache = true
        }
    }

    // if given modulePath nil, default is mainBundle
    if( modulePath){
        var path = ObjC.classes.NSBundle.mainBundle().executablePath().UTF8String()
    }else{
        var path = modulePath
    }

    // create args
    var pPath = Memory.allocUtf8String(path)
    var p = Memory.alloc(Process.pointerSize)
    Memory.writeUInt(p, 0)

    var pClasses = objc_copyClassNamesForImage(pPath, p)
    var count = Memory.readUInt(p)
    classes = new Array(count)

    for (var i = 0; i < count; i++) {
            var pClassName = Memory.readPointer(pClasses.add(i * Process.pointerSize))
            classes[i] = Memory.readUtf8String(pClassName)
    }

    free(pClasses)

    if (needAddToCache){
        // XLOG("Add: modulePath=" + modulePath + ", classes=" + classes + " into cache
 gModulePathToClassesDict")
        // XLOG("Add: modulePath=" + modulePath + ", classes.length=" + classes.length
+ " into cache gModulePathToClassesDict")
        gModulePathToClassesDict[modulePath] = classes
    }

    // XLOG(classes)
    return classes
}


function get_all_class_methods(classname){
    var allMethods = new Array()
```

```
    var needAddToCache = false

    if (isUseCache){
        if (classname in gClassnameToAllMethodsDict){
            allMethods = gClassnameToAllMethodsDict[classname]
            // XLOG("Found: classname=" + classname + " in gClassnameToAllMethodsDict,
allMethods=" + toJsonStr(allMethods))
            // XLOG("Found: classname=" + classname + " in gClassnameToAllMethodsDict,
allMethods.length=" + allMethods.length)
            return allMethods
        } else {
            needAddToCache = true
        }
    }

    // get objclass and metaclass
    var name = Memory.allocUtf8String(classname)
    var objClass = objc_getClass(name)
    var metaClass = objc_getMetaClass(name)

    // get obj class all methods
    var size_ptr = Memory.alloc(Process.pointerSize)
    Memory.writeUInt(size_ptr, 0)
    var pObjMethods = class_copyMethodList(objClass, size_ptr)
    var count = Memory.readUInt(size_ptr)

    var allObjMethods = new Array()

    // get obj class all methods name and IMP
    for (var i = 0; i < count; i++) {
        var curObjMethod = new Array()
        var pObjMethodSEL = method_getName(pObjMethods.add(i * Process.pointerSize))
        var pObjMethodName = Memory.readCString(Memory.readPointer(pObjMethodSEL))
        var objMethodIMP = Memory.readPointer(pObjMethodSEL.add(2 Process.pointerSize))
        // XLOG("-["+classname+ " " + pObjMethodName+"]" + ":" + objMethodIMP)
        curObjMethod.push(pObjMethodName)
        curObjMethod.push(objMethodIMP)
        allObjMethods.push(curObjMethod)
    }

    var allMetaMethods = new Array()

    // get meta class all methods name and IMP
    var pMetaMethods = class_copyMethodList(metaClass, size_ptr)
    var count = Memory.readUInt(size_ptr)
    for (var i = 0; i < count; i++) {
        var curMetaMethod = new Array()

        var pMetaMethodSEL = method_getName(pMetaMethods.add(i * Process.pointerSize))
        var pMetaMethodName = Memory.readCString(Memory.readPointer(pMetaMethodSEL))
        var metaMethodIMP = Memory.readPointer(pMetaMethodSEL.add(2 Process.pointerSize)
)
        //XLOG("+["+classname+ " " + pMetaMethodName+"]" + ":" + metaMethodIMP)
        curMetaMethod.push(pMetaMethodName)
        curMetaMethod.push(metaMethodIMP)
```

```
        allMetaMethods.push(curMetaMethod)
    }

    allMethods.push(allObjMethods)
    allMethods.push(allMetaMethods)

    free(pObjMethods)
    free(pMetaMethods)

    if (needAddToCache){
        // XLOG("Add: classname=" + classname + ", allMethods=" + toJsonStr(allMethods)
 + " into cache gClassnameToAllMethodsDict")
        // XLOG("Add: classname=" + classname + ", allMethods.length=" + allMethods.len
gth + " into cache gClassnameToAllMethodsDict")
        gClassnameToAllMethodsDict[classname] = allMethods
    }

    return allMethods
}

function find_symbol_from_address(modulePath, addr){
    var symbol = "???"
    var modulePathAddr = modulePath + "|" + addr

    var needAddToCache = false

    if (isUseCache){
        if (modulePathAddr in gModulePathAddrToSymbolDict){
            symbol = gModulePathAddrToSymbolDict[modulePathAddr]
            // XLOG("Found: modulePathAddr=" + modulePathAddr + " in gModulePathAddrToS
ymbolDict, symbol=" + symbol)
            return symbol
        } else {
            needAddToCache = true
        }
    }

    var frameAddr = addr
    var theDis = 0xffffffffffffffff
    var tmpDis = 0
    var theClass = "None"
    var theMethodName = "None"
    var theMethodType = "-"
    var theMethodIMP = 0

    var allClassInfo = {}

    var allClass = get_all_objc_class(modulePath)

    for(var i = 0, len = allClass.length; i < len; i++){
        var curClassName = allClass[i]
        // var mInfo = get_all_class_method(curClassName)
        var mInfo = get_all_class_methods(curClassName)

        var objms = mInfo[0]
        for(var j = 0, olen = objms.length; j < olen; j++){
```

```
            var mname = objms[j][0]
            var mIMP = objms[j][1]
            if(frameAddr >= mIMP){
                var tmpDis = frameAddr - mIMP
                if(tmpDis < theDis){
                    theDis = tmpDis
                    theClass = curClassName
                    theMethodName = mname
                    theMethodIMP = mIMP
                    theMethodType = "-"
                }
            }
        }

        var metams = mInfo[1]
        for(var k = 0, mlen = metams.length; k < mlen; k++){
            var mname = metams[k][0]
            var mIMP = metams[k][1]
            if(frameAddr >= mIMP){
                var tmpDis = frameAddr - mIMP
                if(tmpDis < theDis){
                    theDis = tmpDis
                    theClass = curClassName
                    theMethodName = mname
                    theMethodIMP = mIMP
                    theMethodType = "+"
                }
            }
        }
    }

    symbol = theMethodType + "[" + theClass + " " + theMethodName + "]"

    if(symbol.indexOf(".cxx") != -1){
            symbol = "maybe C function?"
    }

    // if distance > 3000, maybe a c function
    if(theDis > 3000){
            symbol = "maybe C function? symbol:" + symbol
    }

    if (needAddToCache){
        // XLOG("Add: modulePathAddr=" + modulePathAddr + ", symbol=" + symbol + " into
 cache gModulePathAddrToSymbolDict")
        gModulePathAddrToSymbolDict[modulePathAddr] = symbol
    }

    return symbol
}


function generateFunctionCallStackList(context){
    var functionCallList = new Array()

    var mainPath = ObjC.classes.NSBundle.mainBundle().executablePath().UTF8String()
```

```
    // XLOG("mainPath=" + mainPath)
    var mainModuleName = getExecFileName(mainPath)
    // XLOG("mainModuleName=" + mainModuleName)

    var backtrace = Thread.backtrace(context, Backtracer.ACCURATE).map(DebugSymbol.from
Address)
    for (var i = 0;i < backtrace.length;i ++)
    {
        // curStackFrame=0x10a1d1910 SharedModules!WAGetWCIHttpImpl
        // curStackFrame=0x1070f0cb4 !0x2304cb4 (0x102304cb4)
        // curStackFrame=0x1944a9614 /System/Library/Frameworks/CFNetwork.framework/CFN
etwork!+[NSURLRequest requestWithURL:]
        var curStackFrame = backtrace[i] + ''
        // XLOG("curStackFrame=" + curStackFrame)

        // var curSym = curStackFrame.split("!")[1]
        var stackFrameSplittedArr = curStackFrame.split("!")
        var curAddrAndModuleStr = stackFrameSplittedArr[0]
        // XLOG("curAddrAndModuleStr=" + curAddrAndModuleStr)
        var curSym = stackFrameSplittedArr[1]
        // XLOG("curSym=" + curSym)

        // var curAddr = curStackFrame.split("!")[0].split(" ")[0]
        var curAddrAndModuleArr = curAddrAndModuleStr.split(" ")
        // XLOG("curAddrAndModuleArr=" + curAddrAndModuleArr)
        var curAddr = curAddrAndModuleArr[0]
        // XLOG("curAddr=" + curAddr)
        // var curModuleName = curStackFrame.split("!")[0].split(" ")[1]
        var curModuleName = curAddrAndModuleArr[1]
        // XLOG("curModuleName=" + curModuleName)

        var moduleInfoDict = get_info_form_address(curAddr);
        // XLOG("moduleInfoDict=" + toJsonStr(moduleInfoDict))

        var curModulePath = moduleInfoDict["fileName"]
        // XLOG("curModulePath=" + curModulePath)
        var fileAddress = moduleInfoDict["fileAddress"]
        // XLOG("fileAddress=" + fileAddress)
        var symbolName = moduleInfoDict["symbolName"]
        // XLOG("symbolName=" + symbolName)
        var symbolAddress = moduleInfoDict["symbolAddress"]
        // XLOG("symbolAddress=" + symbolAddress)

        // skip frida call stack
        if( curModulePath){
            XLOG("! Omit for empty module path, parsed from curAddr=" + curAddr + ", mo
duleInfoDict=" + moduleInfoDict)
            continue
        }

        // var fileAddr = curAddr - get_image_vm_slide(curModulePath);
        var curModuleSlide = get_image_vm_slide(curModulePath)
        // XLOG("curModuleSlide=" + curModuleSlide)
        var fileAddr = curAddr - curModuleSlide
        // XLOG("fileAddr=" + fileAddr)
```

```
        // is the image in app dir?
        if (curModulePath.indexOf(mainModuleName) != -1 ) {
            curSym = find_symbol_from_address(curModulePath, curAddr)
            // XLOG("new curSym=" + curSym)
        }

        var curFunctionCallDict = {
            "curModulePath": curModulePath,
            "curAddr": curAddr,
            "fileAddr": fileAddr,
            "curSym": curSym,
        }
        functionCallList.push(curFunctionCallDict)
    }

    return functionCallList
}

function generateFunctionCallStackStr(functionCallList){
    var functionCallStackStr = "----------------------- printFunctionCallStack_symbol
 -----------------------"
    functionCallStackStr += "\n"
    for (var i = 0;i < functionCallList.length; i++){
        var curFunctionCallDict = functionCallList[i]
        var curModulePath = curFunctionCallDict["curModulePath"]
        var curAddr = curFunctionCallDict["curAddr"]
        var fileAddr = curFunctionCallDict["fileAddr"]
        var curSym = curFunctionCallDict["curSym"]
        var executableFilename = getExecFileName(curModulePath)
        let execMaxWidth = 20
        // let execMaxWidth = 25
        var curFuncCallStr = format(i, 4)+format(executableFilename, execMaxWidth)+"mem
:"+format(ptr(curAddr),13)+"file:"+format(ptr(fileAddr),13)+format(curSym,80)
        functionCallStackStr += curFuncCallStr + "\n"
    }
    functionCallStackStr += "-------------------------------------------------------
---------------------"
    return functionCallStackStr
}

function printFunctionCallStack_symbol(context){
    var functionCallStackList = generateFunctionCallStackList(context)
    var functionCallStackStr = generateFunctionCallStackStr(functionCallStackList)
    console.log(functionCallStackStr)
    return functionCallStackStr
}
```

调用举例：

```
/*****************************************************************************
 * Main
*****************************************************************************/

initCommonLibFunctions()
```

```
...
                Interceptor.attach(curMethod.implementation, {
                    onEnter: function(args) {
                        // console.log("==================== [*] Detected call to: " +
iOSObjCallStr);
                        var logstr = "Called: " + iOSObjCallStr
                        var lineStr = generateLineStr(logstr)
                        console.log(lineStr)

                        var shouldPrintStack = true
                        if (iOSObjCallStr in gPrintedStackDict){
                            // console.log("iOSObjCallStr=" + iOSObjCallStr + " in gPri
ntedStackDict=" + toJsonStr(gPrintedStackDict.keys))
                            if (isPrintOnlyOnceStack){
                                // if (iOSObjCallStr in cfgPrintOnceStackExceptionList){

                                if (isItemInList(iOSObjCallStr, cfgPrintOnceStackExcept
ionList)){
                                    // console.log("iOSObjCallStr=" + iOSObjCallStr + "
 in cfgPrintOnceStackExceptionList=" + toJsonStr(cfgPrintOnceStackExceptionList))
                                    shouldPrintStack = true
                                } else {
                                    shouldPrintStack = false
                                }
                            }
                        }

                        // console.log("shouldPrintStack=" + shouldPrintStack)

                        if (shouldPrintStack) {
                            // printFunctionCallStack_addr(this.context)

                            // printFunctionCallStack_symbol(this.context)
                            var functionCallStackList = generateFunctionCallStackList(t
his.context)
                            var functionCallStackStr = generateFunctionCallStackStr(fun
ctionCallStackList)
                            console.log(functionCallStackStr)

                            gPrintedStackDict[iOSObjCallStr] = functionCallStackStr
                        }
...
```

（相关）输出：

- 新
  - 图

```
frida -U -F net.whatsapp.WhatsApp -l frida_WhatsApp_register.js
[iPhone::WhatsApp ]-> ================== [*] Detected call to: +[NSURLRequest requestWithURL:]
[*] ==========================================================printFunctionCallStack_symbol==========================================
[*] 0   SharedModules       mem:0x106071910  file:0xc29910      +[WACertPinning sharedPinnedWhatsAppCertificateWithoutDomainValidation]
[*] 1   WhatsApp            mem:0x1031c4cb4  file:0x102304cb4   +[WARegistrationURLBuilder preChatdABPropURLRequestWithPhoneNumber:abHash:]
[*] 2   WhatsApp            mem:0x102d99ff4  file:0x101bd9ff4   -[WACompanionModeGatingManager fetchPhoneCompanionAbPropValue:]
[*] 3   WhatsApp            mem:0x102d99f80  file:0x101bd9f80   -[WACompanionModeGatingManager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 4   WhatsApp            mem:0x10318a1fc  file:0x1022ca1fc   -[WAVerificationRegistrationController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 5   WhatsApp            mem:0x103189ee4  file:0x1022c9ee4   -[WAVerificationRegistrationController didAcceptedTOSMoveToNextScreen]
[*] 6   WhatsApp            mem:0x1051816a8  file:0x1022c16a8   -[WAConsumerWelcomeViewController acceptAction:]
[*] 7   UIKitCore           mem:0x1952e99ac  file:0x1845199ac   -[UIApplication sendAction:to:from:forEvent:]
[*] 8   UIKitCore           mem:0x194d1ffbc  file:0x183f4ffbc   -[UIControl sendAction:to:forEvent:]
[*] 9   UIKitCore           mem:0x194d20320  file:0x183f50320   -[UIControl _sendActionsForEvents:withEvent:]
[*] 10  UIKitCore           mem:0x194d1f33c  file:0x183f4f33c   -[UIControl touchesEnded:withEvent:]
[*] 11  UIKitCore           mem:0x195323050  file:0x184553050   -[UIWindow _sendTouchesForEvent:]
[*] 12  UIKitCore           mem:0x195324390  file:0x184554390   -[UIWindow sendEvent:]
[*] 13  UIKitCore           mem:0x195300a9c  file:0x184530a9c   -[UIApplication sendEvent:]
[*] 14  WhatsApp            mem:0x1028f87b8  file:0x101a387b8   -[WAApplication sendEvent:]
[*] 15  UIKitCore           mem:0x195378c20  file:0x1845a8c20   __dispatchPreprocessedEventFromEventQueue
[*] ==========================================================================================================================
argCount:  1
---------- [0] curArgPtr=0x283e6d100
curArgPtrObj: className= NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0
================== [*] Detected call to: -[NSURLRequest initWithURL:]
[*] ==========================================================printFunctionCallStack_symbol==========================================
[*] 0   CFNetwork           mem:0x1944a9614  file:0x1836d9614   +[NSURLRequest requestWithURL:]
[*] 1   SharedModules       mem:0x106071910  file:0xc29910      +[WACertPinning sharedPinnedWhatsAppCertificateWithoutDomainValidation]
[*] 2   WhatsApp            mem:0x1031c4cb4  file:0x102304cb4   +[WARegistrationURLBuilder preChatdABPropURLRequestWithPhoneNumber:abHash:]
[*] 3   WhatsApp            mem:0x102d99ff4  file:0x101bd9ff4   -[WACompanionModeGatingManager fetchPhoneCompanionAbPropValue:]
[*] 4   WhatsApp            mem:0x102d99f80  file:0x101bd9f80   -[WACompanionModeGatingManager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 5   WhatsApp            mem:0x10318a1fc  file:0x1022ca1fc   -[WAVerificationRegistrationController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 6   WhatsApp            mem:0x103189ee4  file:0x1022c9ee4   -[WAVerificationRegistrationController didAcceptedTOSMoveToNextScreen]
[*] 7   WhatsApp            mem:0x1051816a8  file:0x1022c16a8   -[WAConsumerWelcomeViewController acceptAction:]
[*] 8   UIKitCore           mem:0x1952e99ac  file:0x1845199ac   -[UIApplication sendAction:to:from:forEvent:]
[*] 9   UIKitCore           mem:0x194d1ffbc  file:0x183f4ffbc   -[UIControl sendAction:to:forEvent:]
[*] 10  UIKitCore           mem:0x194d20320  file:0x183f50320   -[UIControl _sendActionsForEvents:withEvent:]
[*] 11  UIKitCore           mem:0x194d1f33c  file:0x183f4f33c   -[UIControl touchesEnded:withEvent:]
[*] 12  UIKitCore           mem:0x195323050  file:0x184553050   -[UIWindow _sendTouchesForEvent:]
[*] 13  UIKitCore           mem:0x195324390  file:0x184554390   -[UIWindow sendEvent:]
[*] 14  UIKitCore           mem:0x195300a9c  file:0x184530a9c   -[UIApplication sendEvent:]
[*] 15  WhatsApp            mem:0x1064a87b8  file:0x101a387b8   -[WAApplication sendEvent:]
[*] ==========================================================================================================================
argCount:  1
---------- [0] curArgPtr=0x2838a0180
curArgPtrObj: className= NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0
================== [*] Detected call to: -[NSMutableURLRequest initWithURL:]
[*] ==========================================================printFunctionCallStack_symbol==========================================
[*] 0   CFNetwork           mem:0x1944a9614  file:0x1836d9614   +[NSURLRequest requestWithURL:]
[*] 1   SharedModules       mem:0x106071910  file:0xc29910      +[WACertPinning sharedPinnedWhatsAppCertificateWithoutDomainValidation]
[*] 2   WhatsApp            mem:0x1031c4cb4  file:0x102304cb4   +[WARegistrationURLBuilder preChatdABPropURLRequestWithPhoneNumber:abHash:]
[*] 3   WhatsApp            mem:0x102d99ff4  file:0x101bd9ff4   -[WACompanionModeGatingManager fetchPhoneCompanionAbPropValue:]
[*] 4   WhatsApp            mem:0x102d99f80  file:0x101bd9f80   -[WACompanionModeGatingManager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 5   WhatsApp            mem:0x10318a1fc  file:0x1022ca1fc   -[WAVerificationRegistrationController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 6   WhatsApp            mem:0x103189ee4  file:0x1022c9ee4   -[WAVerificationRegistrationController didAcceptedTOSMoveToNextScreen]
[*] 7   WhatsApp            mem:0x1051816a8  file:0x1022c16a8   -[WAConsumerWelcomeViewController acceptAction:]
[*] 8   UIKitCore           mem:0x1952e99ac  file:0x1845199ac   -[UIApplication sendAction:to:from:forEvent:]
[*] 9   UIKitCore           mem:0x194d1ffbc  file:0x183f4ffbc   -[UIControl sendAction:to:forEvent:]
[*] 10  UIKitCore           mem:0x194d20320  file:0x183f50320   -[UIControl _sendActionsForEvents:withEvent:]
```

```
frida -U -F net.whatsapp.WhatsApp -l frida_WhatsApp_register.js
[*] 8   UIKitCore           mem:0x1952e99ac  file:0x1845199ac   -[UIApplication sendAction:to:from:forEvent:]
[*] 9   UIKitCore           mem:0x194d1ffbc  file:0x183f4ffbc   -[UIControl sendAction:to:forEvent:]
[*] 10  UIKitCore           mem:0x194d20320  file:0x183f50320   -[UIControl _sendActionsForEvents:withEvent:]
[*] 11  UIKitCore           mem:0x194d1f33c  file:0x183f4f33c   -[UIControl touchesEnded:withEvent:]
[*] 12  UIKitCore           mem:0x195323050  file:0x184553050   -[UIWindow _sendTouchesForEvent:]
[*] 13  UIKitCore           mem:0x195324390  file:0x184554390   -[UIWindow sendEvent:]
[*] 14  UIKitCore           mem:0x195300a9c  file:0x184530a9c   -[UIApplication sendEvent:]
[*] 15  WhatsApp            mem:0x1064a87b8  file:0x101a387b8   -[WAApplication sendEvent:]
[*] ==========================================================================================================================
argCount:  1
---------- [0] curArgPtr=0x2838a0180
curArgPtrObj: className= NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0
================== [*] Detected call to: -[NSURLRequest initWithURL:cachePolicy:timeoutInterval:]
[*] ==========================================================xbacktrace==========================================
[*] 0   CFNetwork           mem:0x1944a9614  file:0x1836d9614   +[NSURLRequest requestWithURL:]
[*] 1   SharedModules       mem:0x109cb1910  file:0xc29910      +[WACertPinning sharedPinnedWhatsAppCertificateWithoutDomainValidation]
[*] 2   WhatsApp            mem:0x106d74cb4  file:0x102304cb4   +[WARegistrationURLBuilder preChatdABPropURLRequestWithPhoneNumber:abHash:]
[*] 3   WhatsApp            mem:0x106649ff4  file:0x101bd9ff4   -[WACompanionModeGatingManager fetchPhoneCompanionAbPropValue:]
[*] 4   WhatsApp            mem:0x106649f80  file:0x101bd9f80   -[WACompanionModeGatingManager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 5   WhatsApp            mem:0x106d3a1fc  file:0x1022ca1fc   -[WAVerificationRegistrationController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 6   WhatsApp            mem:0x106d39ee4  file:0x1022c9ee4   -[WAVerificationRegistrationController didAcceptedTOSMoveToNextScreen]
[*] 7   WhatsApp            mem:0x106d316a8  file:0x1022c16a8   -[WAConsumerWelcomeViewController acceptAction:]
[*] 8   UIKitCore           mem:0x1952e99ac  file:0x1845199ac   -[UIApplication sendAction:to:from:forEvent:]
[*] 9   UIKitCore           mem:0x194d1ffbc  file:0x183f4ffbc   -[UIControl sendAction:to:forEvent:]
[*] 10  UIKitCore           mem:0x194d20320  file:0x183f50320   -[UIControl _sendActionsForEvents:withEvent:]
[*] 11  UIKitCore           mem:0x194d1f33c  file:0x183f4f33c   -[UIControl touchesEnded:withEvent:]
[*] 12  UIKitCore           mem:0x195323050  file:0x184553050   -[UIWindow _sendTouchesForEvent:]
[*] 13  UIKitCore           mem:0x195324390  file:0x184554390   -[UIWindow sendEvent:]
[*] 14  UIKitCore           mem:0x195300a9c  file:0x184530a9c   -[UIApplication sendEvent:]
[*] 15  WhatsApp            mem:0x1064a87b8  file:0x101a387b8   -[WAApplication sendEvent:]
[*] ==========================================================================================================================
argCount:  3
---------- [0] curArgPtr=0x2838a0180
curArgPtrObj: className= NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0
---------- [1] curArgPtr=0x0
---------- [2] curArgPtr=0x0
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0 }
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0 }
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0 }
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1&in=2155550000&rc=0 }
================== [*] Detected call to: -[NSMutableURLRequest setHTTPBody:]
[*] ==========================================================xbacktrace==========================================
[*] 0   CFNetwork           mem:0x1944a7c10  file:0x1836d7c10   -[__NSCFLocalSessionTask _onqueue_strippedMutableRequest]
[*] 1   CFNetwork           mem:0x1944c8c94  file:0x1836f8c94   0x25c94 (0x1836f8c94)
[*] 2   CFNetwork           mem:0x1944a6a44  file:0x1836d6a44   -[__NSCFLocalSessionTask _onqueue_completeInitialization]
[*] 3   CFNetwork           mem:0x1946d2188  file:0x183902188   0x22f188 (0x183902188)
[*] 4   libdispatch.dylib   mem:0x190f2e610  file:0x18015e610   _dispatch_call_block_and_release
[*] 5   libdispatch.dylib   mem:0x190f2f184  file:0x18015f184   _dispatch_client_callout
[*] 6   libdispatch.dylib   mem:0x190edb404  file:0x18010b404   _dispatch_lane_serial_drain$VARIANT$mp
[*] 7   libdispatch.dylib   mem:0x190edbe28  file:0x18010be28   _dispatch_lane_invoke$VARIANT$mp
[*] 8   libdispatch.dylib   mem:0x190ee5314  file:0x180115314   _dispatch_workloop_worker_thread
[*] 9   libsystem_pthread.dylibmem:0x19077a8a8  file:0x18011aa8a8   _pthread_wqthread
[*] ==========================================================================================================================
argCount:  1
---------- [0] curArgPtr=0x0
onLeave: retValObjStr=nil
```

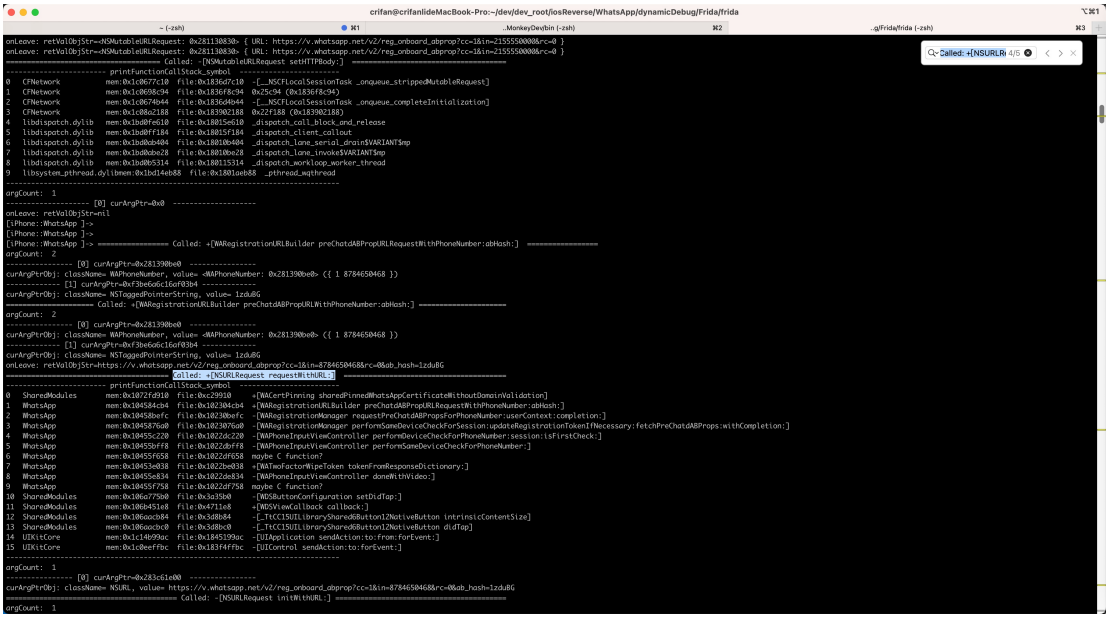
```
[iPhone::WhatsApp ]-> ================== [*] Detected call to: +[NSURLRequest requestWithURL:]
[*] ==========================================================xbacktrace==========================================
[*] 0   SharedModules       mem:0x109cb1910  file:0xc29910      +[WACertPinning sharedPinnedWhatsAppCertificateWithoutDomainValidation]
[*] 1   WhatsApp            mem:0x106d74cb4  file:0x102304cb4   +[WARegistrationURLBuilder preChatdABPropURLRequestWithPhoneNumber:abHash:]
[*] 2   WhatsApp            mem:0x106649ff4  file:0x101bd9ff4   -[WACompanionModeGatingManager fetchPhoneCompanionAbPropValue:]
[*] 3   WhatsApp            mem:0x106649f80  file:0x101bd9f80   -[WACompanionModeGatingManager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 4   WhatsApp            mem:0x106d3a1fc  file:0x1022ca1fc   -[WAVerificationRegistrationController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 5   WhatsApp            mem:0x106d39ee4  file:0x1022c9ee4   -[WAVerificationRegistrationController didAcceptedTOSMoveToNextScreen]
[*] 6   WhatsApp            mem:0x106d316a8  file:0x1022c16a8   -[WAConsumerWelcomeViewController acceptAction:]
[*] 7   UIKitCore           mem:0x1952e99ac  file:0x1845199ac   -[UIApplication sendActi
```

```
on:to:from:forEvent:]
[*] 8   UIKitCore          mem:0x194d1ffbc  file:0x183f4ffbc  -[UIControl sendAction:t
o:forEvent:]
[*] 9   UIKitCore          mem:0x194d20320  file:0x183f50320  -[UIControl _sendActions
ForEvents:withEvent:]
[*] 10  UIKitCore          mem:0x194d1f33c  file:0x183f4f33c  -[UIControl touchesEnded
:withEvent:]
[*] 11  UIKitCore          mem:0x195323050  file:0x184553050  -[UIWindow _sendTouchesF
orEvent:]
[*] 12  UIKitCore          mem:0x195324390  file:0x184554390  -[UIWindow sendEvent:]
[*] 13  UIKitCore          mem:0x195300a9c  file:0x184530a9c  -[UIApplication sendEven
t:]
[*] 14  WhatsApp           mem:0x1064a87b8  file:0x101a387b8  -[WAApplication sendEven
t:]
[*] 15  UIKitCore          mem:0x195378c20  file:0x1845a8c20  __dispatchPreprocessedEv
entFromEventQueue
[*] ==================================================================================
==========================
argCount:  1
---------- [0] curArgPtr=0x2838aa180
curArgPtrObj: class=NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1
&in=2155550000&rc=0
==================== [*] Detected call to: -[NSURLRequest initWithURL:]
[*] ================================================xbacktrace=========================
================
[*] 0   CFNetwork          mem:0x1944a9614  file:0x1836d9614  +[NSURLRequest requestWi
thURL:]
[*] 1   SharedModules      mem:0x109cb1910  file:0xc29910     +[WACertPinning sharedPi
nnedWhatsAppCertificateWithoutDomainValidation]
[*] 2   WhatsApp           mem:0x106d74cb4  file:0x102304cb4  +[WARegistrationURLBuild
er preChatdABPropURLRequestWithPhoneNumber:abHash:]
[*] 3   WhatsApp           mem:0x106649ff4  file:0x101bd9ff4  -[WACompanionModeGatingM
anager fetchPhoneCompanionAbPropValue:]
[*] 4   WhatsApp           mem:0x106649f80  file:0x101bd9f80  -[WACompanionModeGatingM
anager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 5   WhatsApp           mem:0x106d3a1fc  file:0x1022ca1fc  -[WAVerificationRegistra
tionController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 6   WhatsApp           mem:0x106d39ee4  file:0x1022c9ee4  -[WAVerificationRegistra
tionController didAcceptedTOSMoveToNextScreen]
[*] 7   WhatsApp           mem:0x106d316a8  file:0x1022c16a8  -[WAConsumerWelcomeViewC
ontroller acceptAction:]
[*] 8   UIKitCore          mem:0x1952e99ac  file:0x1845199ac  -[UIApplication sendActi
on:to:from:forEvent:]
[*] 9   UIKitCore          mem:0x194d1ffbc  file:0x183f4ffbc  -[UIControl sendAction:t
o:forEvent:]
[*] 10  UIKitCore          mem:0x194d20320  file:0x183f50320  -[UIControl _sendActions
ForEvents:withEvent:]
[*] 11  UIKitCore          mem:0x194d1f33c  file:0x183f4f33c  -[UIControl touchesEnded
:withEvent:]
[*] 12  UIKitCore          mem:0x195323050  file:0x184553050  -[UIWindow _sendTouchesF
orEvent:]
[*] 13  UIKitCore          mem:0x195324390  file:0x184554390  -[UIWindow sendEvent:]
[*] 14  UIKitCore          mem:0x195300a9c  file:0x184530a9c  -[UIApplication sendEven
t:]
[*] 15  WhatsApp           mem:0x1064a87b8  file:0x101a387b8  -[WAApplication sendEven
t:]
```

```
[*] ==========================================================================
==========================
argCount: 1
---------- [0] curArgPtr=0x2838aa180
curArgPtrObj: class=NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1
&in=2155550000&rc=0
==================== [*] Detected call to: -[NSMutableURLRequest initWithURL:]
[*] ================================================xbacktrace=========================
================
[*] 0   CFNetwork          mem:0x1944a9614  file:0x1836d9614  +[NSURLRequest requestWi
thURL:]
[*] 1   SharedModules      mem:0x109cb1910  file:0xc29910     +[WACertPinning sharedPi
nnedWhatsAppCertificateWithoutDomainValidation]
[*] 2   WhatsApp           mem:0x106d74cb4  file:0x102304cb4  +[WARegistrationURLBuild
er preChatdABPropURLRequestWithPhoneNumber:abHash:]
[*] 3   WhatsApp           mem:0x106649ff4  file:0x101bd9ff4  -[WACompanionModeGatingM
anager fetchPhoneCompanionAbPropValue:]
[*] 4   WhatsApp           mem:0x106649f80  file:0x101bd9f80  -[WACompanionModeGatingM
anager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 5   WhatsApp           mem:0x106d3a1fc  file:0x1022ca1fc  -[WAVerificationRegistra
tionController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 6   WhatsApp           mem:0x106d39ee4  file:0x1022c9ee4  -[WAVerificationRegistra
tionController didAcceptedTOSMoveToNextScreen]
[*] 7   WhatsApp           mem:0x106d316a8  file:0x1022c16a8  -[WAConsumerWelcomeViewC
ontroller acceptAction:]
[*] 8   UIKitCore          mem:0x1952e99ac  file:0x1845199ac  -[UIApplication sendActi
on:to:from:forEvent:]
[*] 9   UIKitCore          mem:0x194d1ffbc  file:0x183f4ffbc  -[UIControl sendAction:t
o:forEvent:]
[*] 10  UIKitCore          mem:0x194d20320  file:0x183f50320  -[UIControl _sendActions
ForEvents:withEvent:]
[*] 11  UIKitCore          mem:0x194d1f33c  file:0x183f4f33c  -[UIControl touchesEnded
:withEvent:]
[*] 12  UIKitCore          mem:0x195323050  file:0x184553050  -[UIWindow _sendTouchesF
orEvent:]
[*] 13  UIKitCore          mem:0x195324390  file:0x184554390  -[UIWindow sendEvent:]
[*] 14  UIKitCore          mem:0x195300a9c  file:0x184530a9c  -[UIApplication sendEven
t:]
[*] 15  WhatsApp           mem:0x1064a87b8  file:0x101a387b8  -[WAApplication sendEven
t:]
[*] ==========================================================================
==========================
argCount: 1
---------- [0] curArgPtr=0x2838aa180
curArgPtrObj: class=NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1
&in=2155550000&rc=0
==================== [*] Detected call to: -[NSURLRequest initWithURL:cachePolicy:timeo
utInterval:]
[*] ================================================xbacktrace=========================
================
[*] 0   CFNetwork          mem:0x1944a9614  file:0x1836d9614  +[NSURLRequest requestWi
thURL:]
[*] 1   SharedModules      mem:0x109cb1910  file:0xc29910     +[WACertPinning sharedPi
nnedWhatsAppCertificateWithoutDomainValidation]
[*] 2   WhatsApp           mem:0x106d74cb4  file:0x102304cb4  +[WARegistrationURLBuild
er preChatdABPropURLRequestWithPhoneNumber:abHash:]
```

```
[*] 3   WhatsApp            mem:0x106649ff4  file:0x101bd9ff4  -[WACompanionModeGatingM
anager fetchPhoneCompanionAbPropValue:]
[*] 4   WhatsApp            mem:0x106649f80  file:0x101bd9f80  -[WACompanionModeGatingM
anager shouldShowPhoneCompanionEntryPointWithCompletion:]
[*] 5   WhatsApp            mem:0x106d3a1fc  file:0x1022ca1fc  -[WAVerificationRegistra
tionController fetchPhoneCompanionEntryPointPreChatdAbProp]
[*] 6   WhatsApp            mem:0x106d39ee4  file:0x1022c9ee4  -[WAVerificationRegistra
tionController didAcceptedTOSMoveToNextScreen]
[*] 7   WhatsApp            mem:0x106d316a8  file:0x1022c16a8  -[WAConsumerWelcomeViewC
ontroller acceptAction:]
[*] 8   UIKitCore           mem:0x1952e99ac  file:0x1845199ac  -[UIApplication sendActi
on:to:from:forEvent:]
[*] 9   UIKitCore           mem:0x194d1ffbc  file:0x183f4ffbc  -[UIControl sendAction:t
o:forEvent:]
[*] 10  UIKitCore           mem:0x194d20320  file:0x183f50320  -[UIControl _sendActions
ForEvents:withEvent:]
[*] 11  UIKitCore           mem:0x194d1f33c  file:0x183f4f33c  -[UIControl touchesEnded
:withEvent:]
[*] 12  UIKitCore           mem:0x195323050  file:0x184553050  -[UIWindow _sendTouchesF
orEvent:]
[*] 13  UIKitCore           mem:0x195324390  file:0x184554390  -[UIWindow sendEvent:]
[*] 14  UIKitCore           mem:0x195300a9c  file:0x184530a9c  -[UIApplication sendEven
t:]
[*] 15  WhatsApp            mem:0x1064a87b8  file:0x101a387b8  -[WAApplication sendEven
t:]
[*] ==========================================================================
==========================
argCount:  3
---------- [0] curArgPtr=0x2838aa180
curArgPtrObj: class=Name= NSURL, value= https://v.whatsapp.net/v2/reg_onboard_abprop?cc 1
&in=2155550000&rc=0
---------- [1] curArgPtr=0x0
---------- [2] curArgPtr=0x0
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/
v2/reg_onboard_abprop?cc 1&in=2155550000&rc=0 }
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/
v2/reg_onboard_abprop?cc 1&in=2155550000&rc=0 }
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/
v2/reg_onboard_abprop?cc 1&in=2155550000&rc=0 }
onLeave: retValObjStr=<NSMutableURLRequest: 0x2814fa130> { URL: https://v.whatsapp.net/
v2/reg_onboard_abprop?cc 1&in=2155550000&rc=0 }
==================== [*] Detected call to: -[NSMutableURLRequest setHTTPBody:]
[*] ==================================================xbacktrace==========================
================
[*] 0   CFNetwork           mem:0x1944a7c10  file:0x1836d7c10  -[__NSCFLocalSessionTask
 _onqueue_strippedMutableRequest]
[*] 1   CFNetwork           mem:0x1944c8c94  file:0x1836f8c94  0x25c94 (0x1836f8c94)
[*] 2   CFNetwork           mem:0x1944a4b44  file:0x1836d4b44  -[__NSCFLocalSessionTask
 _onqueue_completeInitialization]
[*] 3   CFNetwork           mem:0x1946d2188  file:0x183902188  0x22f188 (0x183902188)
[*] 4   libdispatch.dylib   mem:0x190f2e610  file:0x18015e610  _dispatch_call_block_and
_release
[*] 5   libdispatch.dylib   mem:0x190f2f184  file:0x18015f184  _dispatch_client_callout
[*] 6   libdispatch.dylib   mem:0x190edb404  file:0x18010b404  _dispatch_lane_serial_dr
ain$VARIANT$mp
[*] 7   libdispatch.dylib   mem:0x190edbe28  file:0x18010be28  _dispatch_lane_invoke$VA
```

```
RIANT$mp
[*] 8   libdispatch.dylib   mem:0x190ee5314  file:0x180115314  _dispatch_workloop_worke
r_thread
[*] 9   libsystem_pthread.dylibmem:0x190f7eb88  file:0x1801aeb88  _pthread_wqthread
[*] ==========================================================================================
============================
argCount:  1
---------- [0] curArgPtr=0x0
onLeave: retValObjStr=nil
```

- 旧
  - 图
    - 

```
========================================= Called: +[NSURLRequest requestWithURL:] ======
=====================================
------------------------ printFunctionCallStack_symbol  ------------------------
0   SharedModules       mem:0x1072fd910  file:0xc29910     +[WACertPinning sharedPinned
WhatsAppCertificateWithoutDomainValidation]
1   WhatsApp            mem:0x104584cb4  file:0x102304cb4  +[WARegistrationURLBuilder p
reChatdABPropURLRequestWithPhoneNumber:abHash:]
2   WhatsApp            mem:0x10458befc  file:0x10230befc  -[WARegistrationManager requ
estPreChatdABPropsForPhoneNumber:userContext:completion:]
3   WhatsApp            mem:0x1045876a0  file:0x1023076a0  -[WARegistrationManager perf
ormSameDeviceCheckForSession:updateRegistrationTokenIfNecessary:fetchPreChatdABProps:wi
thCompletion:]
4   WhatsApp            mem:0x10455c220  file:0x1022dc220  -[WAPhoneInputViewController
 performDeviceCheckForPhoneNumber:session:isFirstCheck:]
5   WhatsApp            mem:0x10455bff8  file:0x1022dbff8  -[WAPhoneInputViewController
 performSameDeviceCheckForPhoneNumber:]
6   WhatsApp            mem:0x10455f658  file:0x1022df658  maybe C function?
7   WhatsApp            mem:0x10453e038  file:0x1022be038  +[WATwoFactorWipeToken token
FromResponseDictionary:]
8   WhatsApp            mem:0x10455e834  file:0x1022de834  -[WAPhoneInputViewController
 doneWithVideo:]
9   WhatsApp            mem:0x10455f758  file:0x1022df758  maybe C function?
10  SharedModules       mem:0x106a775b0  file:0x3a35b0     -[WDSButtonConfiguration set
```

```
DidTap:]
11  SharedModules       mem:0x106b451e8  file:0x4711e8     +[WDSViewCallback callback:]
12  SharedModules       mem:0x106aacb84  file:0x3d8b84     -[_TtCC15UILibraryShared6But
ton12NativeButton intrinsicContentSize]
13  SharedModules       mem:0x106aacbc0  file:0x3d8bc0     -[_TtCC15UILibraryShared6But
ton12NativeButton didTap]
14  UIKitCore           mem:0x1c14b99ac  file:0x1845199ac  -[UIApplication sendAction:t
o:from:forEvent:]
15  UIKitCore           mem:0x1c0eeffbc  file:0x183f4ffbc  -[UIControl sendAction:to:fo
rEvent:]
--------------------------------------------------------------------------------
argCount:  1
---------------- [0] curArgPtr=0x283c61e00  ----------------
curArgPtrObj: class=NSURL, value=https://v.whatsapp.net/v2/reg_onboard_abprop?cc=1
&in=8784650468&rc=0&ab_hash=1zduBG
```

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Android函数

此处整理Frida的js中，Android方面的通用的或工具类的函数：

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Java通用

describeJavaClass

```
function describeJavaClass(className) {
  var jClass = Java.use(className);
  console.log(JSON.stringify({
    _name: className,
    _methods: Object.getOwnPropertyNames(jClass.__proto__).filter(m => {
    // _methods: Object.getOwnPropertyDescriptor(jClass.__proto__).filter(m => {
    // _methods: Object.getOwnPropertySymbols(jClass.__proto__).filter(m => {
      return !m.startsWith('$') // filter out Frida related special properties
        && m == 'class' || m == 'constructor' // optional
    }),
    _fields: jClass.class.getFields().map(f => {
      return f.toString()
    })
  }, null, 2))
}
```

enumMethods

```
// enumerate all methods declared in a Java class
function enumMethods(targetClass)
{
  var hook = Java.use(targetClass);
  var ownMethods = hook.class.getDeclaredMethods();
  console.log("use getDeclaredMethods")

  // var ownMethods = hook.class.getMethods();
  // console.log("use getMethods")

  hook.$dispose;
  return ownMethods;
}
```

调用：

```
  // enumerate all methods in a class
  var allMethods = enumMethods(javaClassName)
  allMethods.forEach(function(singleMethod) {
    console.log(singleMethod)
  })
```

enumProperties

```
// enumerate all property=field declared in a Java class
```

```
function enumProperties(targetClass)
{
  var hook = Java.use(targetClass);
  // var ownMethods = hook.class.getFields();
  // console.log("use getFields")

  var ownFields = hook.class.getDeclaredFields();
  console.log("use getDeclaredFields")

  hook.$dispose;
  return ownFields;
}
```

调用：

```
  var allProperties = enumProperties(javaClassName)
  allProperties.forEach(function(singleProperty) {
    console.log(singleProperty)
  })
```

printClassAllMethodsFields

```
// print single java class all Functions=Methods and Fields=Properties
function printClassAllMethodsFields(javaClassName){
  console.log("==========" + "Class: " + javaClassName + " ==========")

  console.log("-----" + "All Properties" + "-----")
  var allProperties = enumProperties(javaClassName)
  allProperties.forEach(function(singleProperty) {
    console.log(singleProperty)
  })

  console.log("-----" + "All Methods" + "-----")
  // enumerate all methods in a class
  var allMethods = enumMethods(javaClassName)
  allMethods.forEach(function(singleMethod) {
    console.log(singleMethod)
  })
  console.log("")
}
```

调用：

```
    var ContextImplClassName = "android.app.ContextImpl"
    printClassAllMethodsFields(ContextImplClassName)
```

getStackStr

```
// get current stack trace string
function getStackStr(ThrowableCls) {
```

```
  let newThrowable = ThrowableCls.$new()
  // console.log("getStackStr: newThrowable=" + newThrowable)
  var stackElements = newThrowable.getStackTrace()
  // console.log("getStackStr: stackElements=" + stackElements)
  var stackStr = "Stack: " + stackElements[0] //method//stackElements[0].getMethodName()

  for (var i = 1; i < stackElements.length; i++) {
    stackStr += "\n    at " + stackElements[i]
  }
  // stackStr = "\n\n" + stackStr
  stackStr = stackStr + "\n"
  // console.log("getStackStr: stackStr=" + stackStr)

  return stackStr
}
```

调用：

```
  var stackStr = getStackStr(ThrowableCls)
  console.log(stackStr)
```

PrintStack

```
// 打印当前调用堆栈信息 print call stack
function PrintStack(ThrowableCls) {
  var stackStr = getStackStr(ThrowableCls)
  console.log(stackStr)

  // let newThrowable = ThrowableCls.$new()
  // let curLog = Java.use("android.util.Log")
  // let stackStr = curLog.getStackTraceString(newThrowable)
  // console.log("stackStr=" + stackStr)
}
```

调用：

```
    var ThrowableCls = Java.use("java.lang.Throwable")
    console.log("ThrowableCls=" + ThrowableCls)

    PrintStack(ThrowableCls)
```

getFunctionCallStr

```
// get Function call string
function getFunctionCallStr(funcName, funcParaDict){
  // var isAMSStartSevice = funcName === "AMS.startService"
  // if(isAMSStartSevice){
  //   console.log("getFunctionCallStr: funcName=" + funcName + ", funcParaDict=" + toJ
sonStr(funcParaDict))
```

```
  // }

  var logStr = `${funcName}:`
  // var logStr = funcName + ":"
  var isFirst = true

  for(var curParaName in funcParaDict){
    let curParaValue = funcParaDict[curParaName]
    var prevStr = ""
    if (isFirst){
      prevStr = " "
      isFirst = false
    } else {
      prevStr = ", "
    }

    logStr = `${logStr}${prevStr}${curParaName}=` + curParaValue
    // logStr = logStr + prevStr + curParaName + "=" + curParaValue
  }

  // if(isAMSStartSevice){
  //   console.log("getFunctionCallStr: logStr=" + logStr)
  // }

  return logStr
}
```

调用：

```
  var functionCallStr = getFunctionCallStr(funcName, funcParaDict)
```

printFunctionCallAndStack

```
// print Function call and stack trace string
function printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls){
  // var isAMSStartSevice = funcName === "AMS.startService"
  // if (isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: funcName=" + funcName + ", funcParaDict=
" + toJsonStr(funcParaDict) + ", ThrowableCls=" + ThrowableCls)
  // }

  var functionCallStr = getFunctionCallStr(funcName, funcParaDict)

  // if (isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: functionCallStr=" + functionCallStr)
  // }

  var stackStr = getStackStr(ThrowableCls)

  // if(isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: stackStr=" + stackStr)
  // }
```

```
  var functionCallAndStackStr = `${functionCallStr}\n${stackStr}`
  // var functionCallAndStackStr = functionCallStr + "\n" + stackStr

  // if(isAMSStartSevice){
  //   console.log("printFunctionCallAndStack: functionCallAndStackStr=" + functionCall
AndStackStr)
  // }

  // return functionCallAndStackStr
  console.log(functionCallAndStackStr)
}
```

调用：

```
    // ---------------------------------------- android.app.ContextImpl
    var ContextImplClassName = "android.app.ContextImpl"
    var ContextImplCls = Java.use(ContextImplClassName)
    console.log("ContextImplCls=" + ContextImplCls)
    // printClassAllMethodsFields(ContextImplClassName)

    // public boolean bindServiceAsUser(Intent service, ServiceConnection conn, int fla
gs, UserHandle user)
    var bindServiceAsUserFunc4 = ContextImplCls.bindServiceAsUser.overload('android.con
tent.Intent', 'android.content.ServiceConnection', 'int', 'android.os.UserHandle')
    if (bindServiceAsUserFunc4) {
      bindServiceAsUserFunc4.implementation = function (service, conn, flags, user) {
        // console.log("ContextImpl.bindServiceAsUser 4: service=" + service + ", conn=
" + conn + ", flags=" + flags + ", user=" + user)
        // PrintStack(ThrowableCls)
        var funcName = "ContextImpl.bindServiceAsUser 4"
        var funcParaDict = {
          "service": service,
          "conn": conn,
          "flags": flags,
          "user": user,
        }
        printFunctionCallAndStack(funcName, funcParaDict, ThrowableCls)

        return this.bindServiceAsUser(service, conn, flags, user)
      }
    }
```

findClass

```
// find loaded classes that match a pattern (async)
function findClass(pattern)
{
    console.log("Finding all classes that match pattern: " + pattern + "\n");

    Java.enumerateLoadedClasses({
        onMatch: function(aClass) {
            if (aClass.match(pattern))
                console.log(aClass)
```

```
        },
        onComplete: function() {}
    });
}
```

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Android类

ProcessRecord

printProcessRecord

```
function printProcessRecord(curProcessRecord){
  console.log("printProcessRecord: curProcessRecord=" + curProcessRecord)
  console.log("  mService=" + curProcessRecord.mService.value)
  console.log("  mProcLock=" + curProcessRecord.mProcLock.value)
  console.log("  info=" + curProcessRecord.info.value)
  console.log("  processInfo=" + curProcessRecord.processInfo.value)
  console.log("  isolated=" + curProcessRecord.isolated.value)
  console.log("  isSdkSandbox=" + curProcessRecord.isSdkSandbox.value)
  console.log("  appZygote=" + curProcessRecord.appZygote.value)
  console.log("  uid=" + curProcessRecord.uid.value)
  console.log("  userId=" + curProcessRecord.userId.value)
  console.log("  processName=" + curProcessRecord.processName.value)
  console.log("  sdkSandboxClientAppPackage=" + curProcessRecord.sdkSandboxClientAppPac
kage.value)
  console.log("  sdkSandboxClientAppVolumeUuid=" + curProcessRecord.sdkSandboxClientApp
VolumeUuid.value)
}
```

调用：

```
    var handleProcessStartedLockedFunc = ProcessListCls.handleProcessStartedLocked.over
load('com.android.server.am.ProcessRecord', 'int', 'boolean', 'long', 'boolean')
    if (handleProcessStartedLockedFunc) {
      handleProcessStartedLockedFunc.implementation = function (app, pid, usingWrapper,
 expectedStartSeq, procAttached) {
...
        printProcessRecord(app)
```

Parcel

getParcelInfo

```
function getParcelInfo(curParcel){
  var parcelDataSize = curParcel.dataSize()
  var parcelDataCapacity = curParcel.dataCapacity()
  // var parcelDataPosition = curParcel.dataPosition()
  // var parcelInfoStr = "dataSize=" + parcelDataSize + ", dataCapacity=" + parcelDataC
apacity + ", dataPositon = " + parcelDataPosition
  var parcelInfoStr = "Parcel: " + curParcel + ", dataSize=" + parcelDataSize + ", data
Capacity=" + parcelDataCapacity
  return parcelInfoStr
}
```

调用：

```
var dataParcelInfoStr = getParcelInfo(dataParcel)
```

tryReadParcelString

```
// try to read Parcel string
function tryReadParcelString(curParcel){
  var parcelDataSize = curParcel.dataSize()
  // console.log("curParcel=" + curParcel + ": parcelDataSize=" + parcelDataSize)
  let StepSize = 4

  var isFoundStr = false
  var strDictList = []

  var curStr = null
  var curStepSize = 0
  // var foundStr = null
  // var strPos = -1
  var foundStrNum = 0
  for (var curPos = 0; curPos < parcelDataSize; curPos++) {
    curStepSize = StepSize
    curParcel.setDataPosition(curPos)
    curStr = curParcel.readString()
    if (curStr){
      if (curStr === "") {
        // empty string, continue try read other string
      } else {
        isFoundStr = true
        foundStrNum += 1

        // foundStr = curStr
        // strPos = curPos
        // console.log("  [" + curPos + "] string=" + curStr)
        // console.log("  [" + strPos + "] string=" + foundStr)
        var curStrDict = {"str": curStr, "pos": curPos}
        strDictList.push(curStrDict)
        var newPosition = curParcel.dataPosition()
        var posDiff = newPosition - curPos
        curStepSize = posDiff
        // console.log("  [" + foundStrNum + "] strDict=" + toJsonStr(curStrDict, true)
 + ", pos: " + curPos + " -> " + newPosition +", curStepSize=" + curStepSize)
        // break
      }
    }
    curPos += curStepSize
  }

  // setDataPosition and readString maybe CHANGED position, so need reset position
  curParcel.setDataPosition(0)

  // if(isFoundStr){
```

```
  //   // var logStr = toJsonStr(strDictList, true, 1)
  //   var logStr = toJsonStr(strDictList, true, 0)
  //   console.log("  logStr=" + logStr)
  // }

  return {
    "isFoundStr": isFoundStr,
    "strDictList": strDictList
  }
}
```

调用：

```
    var readResultDict = tryReadParcelString(dataParcel)
    console.log("parcelStr=" + parcelStr + ", strPos=" + strPos)
    var isFoundStr = readResultDict.isFoundStr
    var strDictList = readResultDict.strDictList
    if (isFoundStr) {
      // var foundStrLog = ""
      var strDictListStr = toJsonStr(strDictList, true, 0)
```

Intent

printIntentInfo

```
// print Intent info
function printIntentInfo(curIntent){
  console.log("printIntentInfo: curIntent=" + curIntent)
  var curComponent = curIntent.getComponent()
  console.log("  Intent component=" + curComponent)
  if (curComponent) {
    var pkgName = curComponent.getPackageName()
    var clsName = curComponent.getClassName()
    var shortClsName = curComponent.getShortClassName()
    var flattenedShortStr = curComponent.flattenToShortString()
    var flattenedStr = curComponent.flattenToString()
    console.log("    Intent Component info: pkgName=" + pkgName + ", clsName=" + clsNam
e + ", shortClsName=" + shortClsName + ", flattenedStr=" + flattenedStr + ",flattenedS
hortStr=" + flattenedShortStr)
  }
}
```

调用：

```
printIntentInfo(service)
```

TransactCode

hookPrintTransactCodeValue

```
function hookPrintTransactCodeValue(){
    // ---------------------------------------- android.app.IActivityManager$Stub
    var IActivityManagerStubClassName = "android.app.IActivityManager$Stub"
    var IActivityManagerStubCls = Java.use(IActivityManagerStubClassName)
    console.log("IActivityManagerStubCls=" + IActivityManagerStubCls)
    // printClassAllMethodsFields(IActivityManagerStubClassName)

    // console.log("IActivityManager$Stub: code_startService=" + code_startService + ",
 code_broadcastIntent=" + code_broadcastIntent + ", code_startInstrumentation=" + code_
startInstrumentation + ", code_unbindService=" + code_unbindService)
    var TRANSACTION_startService = IActivityManagerStubCls.TRANSACTION_startService.val
ue
    console.log("TRANSACTION_startService=" + TRANSACTION_startService)
    var TRANSACTION_broadcastIntent = IActivityManagerStubCls.TRANSACTION_broadcastInte
nt.value
    console.log("TRANSACTION_broadcastIntent=" + TRANSACTION_broadcastIntent)
    var TRANSACTION_unbindService = IActivityManagerStubCls.TRANSACTION_unbindService.v
alue
    console.log("TRANSACTION_unbindService=" + TRANSACTION_unbindService)
    var TRANSACTION_publishService = IActivityManagerStubCls.TRANSACTION_publishService.
value
    console.log("TRANSACTION_publishService=" + TRANSACTION_publishService)
    var TRANSACTION_startInstrumentation = IActivityManagerStubCls.TRANSACTION_startIns
trumentation.value
    console.log("TRANSACTION_startInstrumentation=" + TRANSACTION_startInstrumentation)
    var TRANSACTION_startActivity = IActivityManagerStubCls.TRANSACTION_startActivity.v
alue
    console.log("TRANSACTION_startActivity=" + TRANSACTION_startActivity)
    // var TRANSACTION_startActivityAndWait = IActivityManagerStubCls.TRANSACTION_start
ActivityAndWait.value
    // console.log("TRANSACTION_startActivityAndWait=" + TRANSACTION_startActivityAndWa
it)
    // var TRANSACTION_startActivityAsCaller = IActivityManagerStubCls.TRANSACTION_star
tActivityAsCaller.value
    // console.log("TRANSACTION_startActivityAsCaller=" + TRANSACTION_startActivityAsCa
ller)
    var TRANSACTION_startActivityAsUser = IActivityManagerStubCls.TRANSACTION_startActi
vityAsUser.value
    console.log("TRANSACTION_startActivityAsUser=" + TRANSACTION_startActivityAsUser)
    var TRANSACTION_startActivityFromRecents = IActivityManagerStubCls.TRANSACTION_star
tActivityFromRecents.value
    console.log("TRANSACTION_startActivityFromRecents=" + TRANSACTION_startActivityFrom
Recents)
    // var TRANSACTION_startActivityIntentSender = IActivityManagerStubCls.TRANSACTION_
startActivityIntentSender.value
    // console.log("TRANSACTION_startActivityIntentSender=" + TRANSACTION_startActivity
IntentSender)
    // var TRANSACTION_startActivityWithConfig = IActivityManagerStubCls.TRANSACTION_st
artActivityWithConfig.value
    // console.log("TRANSACTION_startActivityWithConfig=" + TRANSACTION_startActivityWi
thConfig)

    var TRANSACTION_registerUidObserver = IActivityManagerStubCls.TRANSACTION_registerU
idObserver.value
    console.log("TRANSACTION_registerUidObserver=" + TRANSACTION_registerUidObserver)
```

```
    var TRANSACTION_unhandledBack = IActivityManagerStubCls.TRANSACTION_unhandledBack.v
alue
    console.log("TRANSACTION_unhandledBack=" + TRANSACTION_unhandledBack)
    var TRANSACTION_registerReceiver = IActivityManagerStubCls.TRANSACTION_registerRece
iver.value
    console.log("TRANSACTION_registerReceiver=" + TRANSACTION_registerReceiver)
    var TRANSACTION_attachApplication = IActivityManagerStubCls.TRANSACTION_attachAppli
cation.value
    console.log("TRANSACTION_attachApplication=" + TRANSACTION_attachApplication)
    // var TRANSACTION_activityIdle = IActivityManagerStubCls.TRANSACTION_activityIdle.
value
    // console.log("TRANSACTION_activityIdle=" + TRANSACTION_activityIdle)
    var TRANSACTION_stopService = IActivityManagerStubCls.TRANSACTION_stopService.value
    console.log("TRANSACTION_stopService=" + TRANSACTION_stopService)
    var TRANSACTION_bindService = IActivityManagerStubCls.TRANSACTION_bindService.value
    console.log("TRANSACTION_bindService=" + TRANSACTION_bindService)
    var TRANSACTION_noteWakeupAlarm = IActivityManagerStubCls.TRANSACTION_noteWakeupAla
rm.value
    console.log("TRANSACTION_noteWakeupAlarm=" + TRANSACTION_noteWakeupAlarm)
    var TRANSACTION_openContentUri = IActivityManagerStubCls.TRANSACTION_openContentUri.
value
    console.log("TRANSACTION_openContentUri=" + TRANSACTION_openContentUri)
    var TRANSACTION_finishReceiver = IActivityManagerStubCls.TRANSACTION_finishReceiver.
value
    console.log("TRANSACTION_finishReceiver=" + TRANSACTION_finishReceiver)
    // var TRANSACTION_startNextMatchingActivity = IActivityManagerStubCls.TRANSACTION_
startNextMatchingActivity.value
    // console.log("TRANSACTION_startNextMatchingActivity=" + TRANSACTION_startNextMatc
hingActivity)

    var TRANSACTION_finishActivity = IActivityManagerStubCls.TRANSACTION_finishActivity.
value
    console.log("TRANSACTION_finishActivity=" + TRANSACTION_finishActivity)
}
```

调用：

```
hookPrintTransactCodeValue()
```

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C

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native C

hookNativeFunc

```
function hookNativeFunc(){
  // /Users/crifan/dev/dev_src/androidReverse/Android/android.googlesource.com/base-ref
s_heads_main/core/jni/android_util_Binder.cpp
  // status_t onTransact( uint32_t code, const Parcel& data, Parcel* reply, uint32_t fl
ags = 0) override {
  // var foundOnTransact = Module.findExportByName(null, "onTransact")

  // let transactModuleName = "libBinder.so"
  // let transactModuleName = "libbinder.so"
  let transactModuleName = "libbinder_ndk.so"

  var foundOnTransact = Module.findExportByName(transactModuleName, "onTransact")

  console.log("foundOnTransact=" + foundOnTransact)
  if (foundOnTransact) {
    Interceptor.attach(foundOnTransact, {
      onEnter: function(args) {
        var code = args[0]
        var data = args[1]
        var reply = args[2]
        var flags = args[3]
        console.log("onTransact: code=" + code + ", data=" + data + ", reply=" + reply +
 ", flags=" + flags)
      },
      onLeave: function(retVal) {
        console.log("onTransact: retval=" + retVal)
      }
    })
  }

  // var foundTransact = Module.findExportByName(null, "transact")
  var foundTransact = Module.findExportByName(transactModuleName, "transact")
  console.log("foundTransact=" + foundTransact)
}
```

调用：

```
function hookForceStop() {
  if( Java.available){
    console.error("Java is not available")
    return
  }
  console.log("Java is available")
  console.log("Java.androidVersion=" + Java.androidVersion)
  Java.perform(function () {
    ...
```

```
    hookNativeFunc()
    ...
  }
}

setImmediate(hookForceStop)
```

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附录

下面列出相关参考资料。

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参考资料

- 4ch12dy/FridaLib: iOS/android frida library for reversing (github.com)
- 【已解决】Frida中js判断字符串是否在字典dict的key键中
- 【已解决】Frida中js从数组中截取获取部分子数组元素
- 【已解决】Frida中js打印日志log优化：自动生成中间字符串加上左右对称的单行log日志
- 【已解决】Frida去hook函数时打印iOS函数调用堆栈且带符号解析后的函数名
- 【已解决】frida调试iOS函数打印函数堆栈且带符号解析后的函数：加缓存结果以优化速度提高性能
- 【已解决】Frida打印iOS函数调用堆栈：优化同一函数只输出一次
- 【已解决】iOS逆向WhatsApp：Frida的js的函数堆栈打印优化：给个别特定函数加到排除列表
- 【已解决】iOS逆向WhatsApp：Frida的js的函数堆栈打印优化：支持特定函数的特定参数值时打印
- 【已解决】Frida无法hook到类ActivityManagerService：hook系统进程system_server
-

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