

移动开发协作及性能优化案例

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主要内容

- 移动开发协作
 - 与产品经理协作
 - 与前端及后端团队协作
- 性能优化案例
 - 手机浏览器启动优化
 - 稳定性

XX! 需求又改了!

协作问题



快速建立信任关系

- 多沟通
- 积极主动
- 执行力

Web前端 & 客户端

Web前端与客户端协作

- JS Bridge
- Web App Container



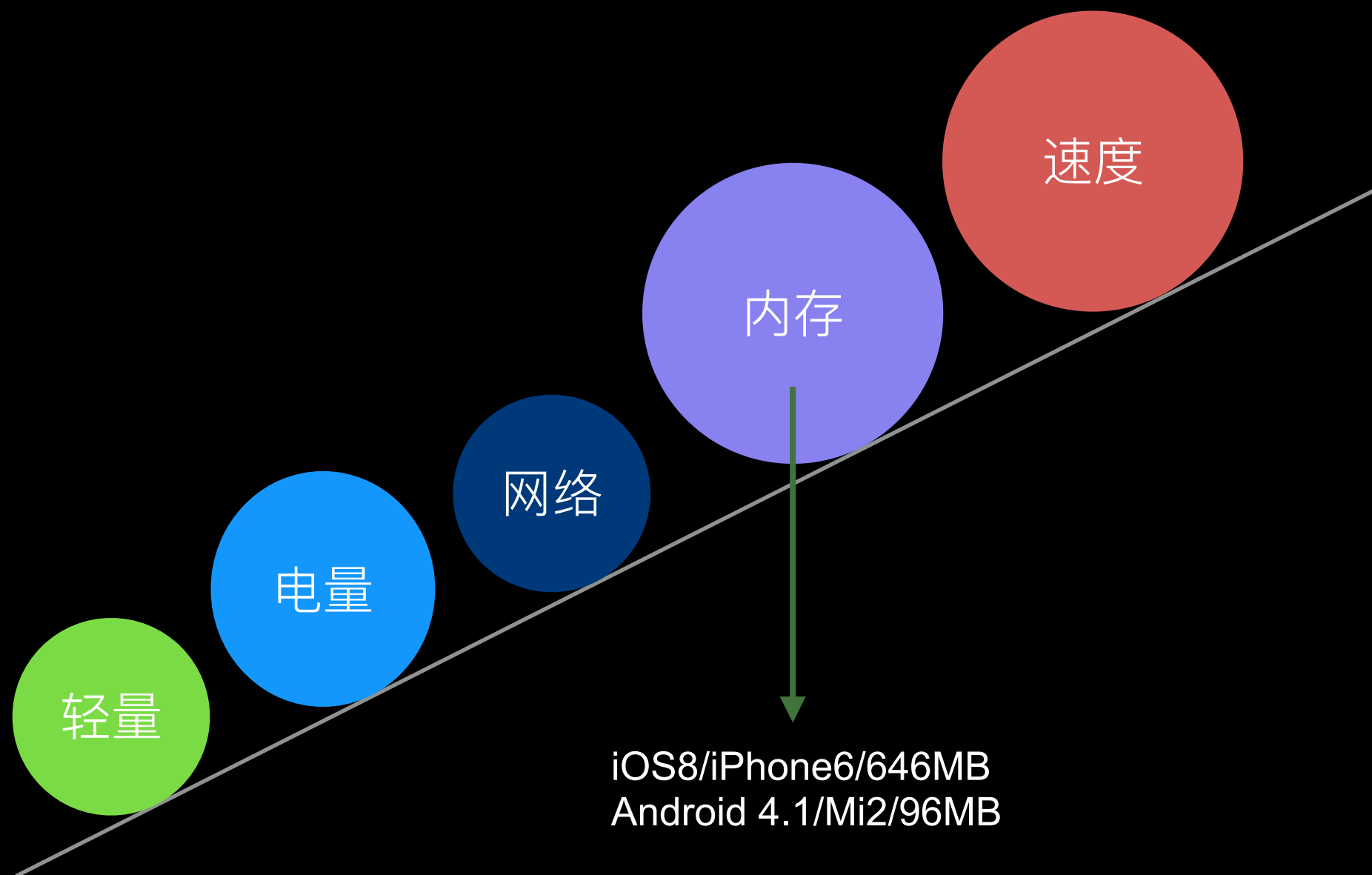
后端 & 客户端

后端与客户端协作

- 基于接口前后端分离
 - RESTFul API
 - RPC Protocol

移动开发优化案例

移动平台敏感因子

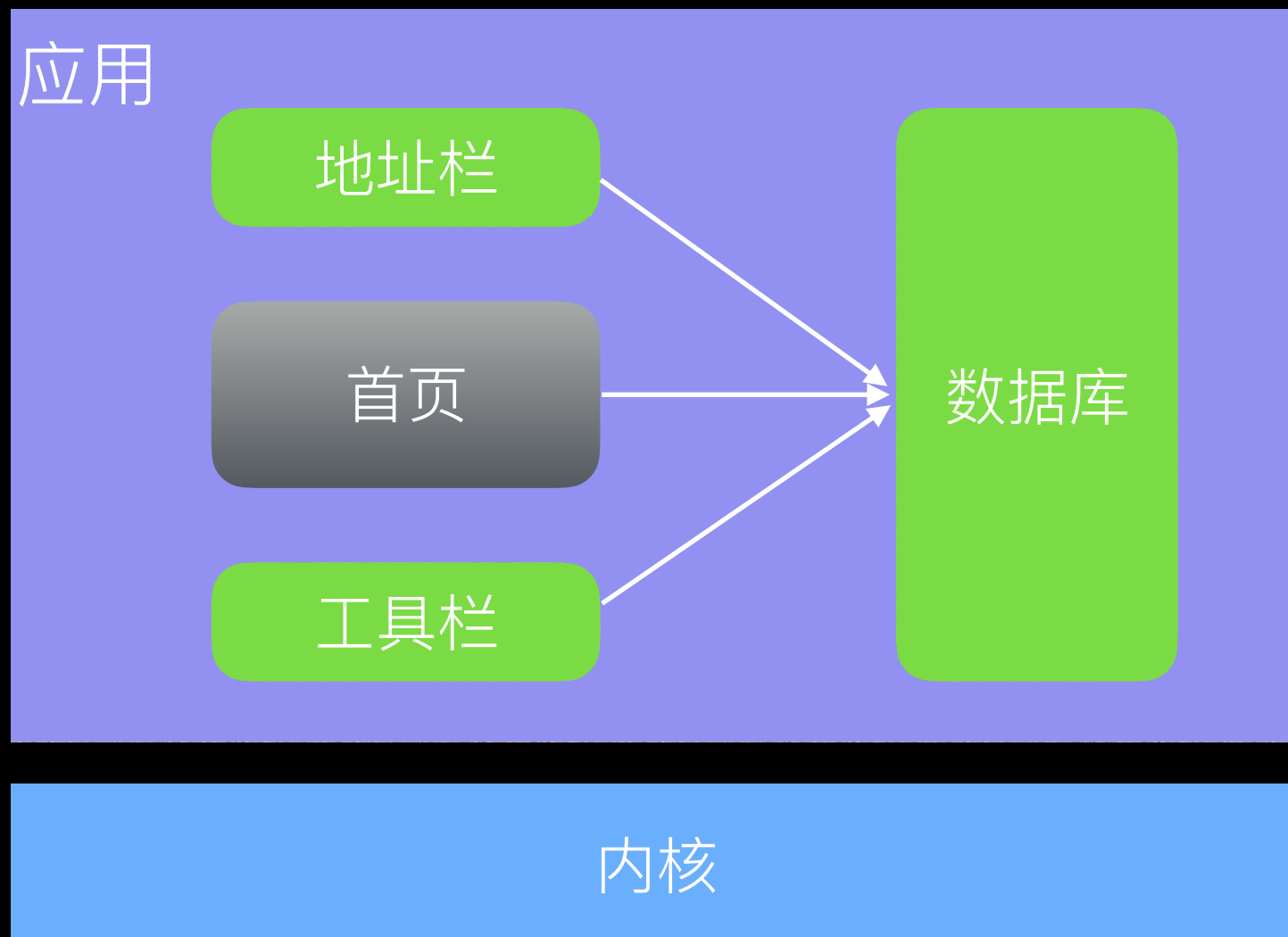


手机浏览器启动优化

APP启动方式

- 冷启动
- 热启动

启动模块



架构优化

- 启动相关UI高度模块化
- 启动数据分离

首页UI优化

- 减少UI层次 ≤ 3
- 只初始化启动第一眼UI

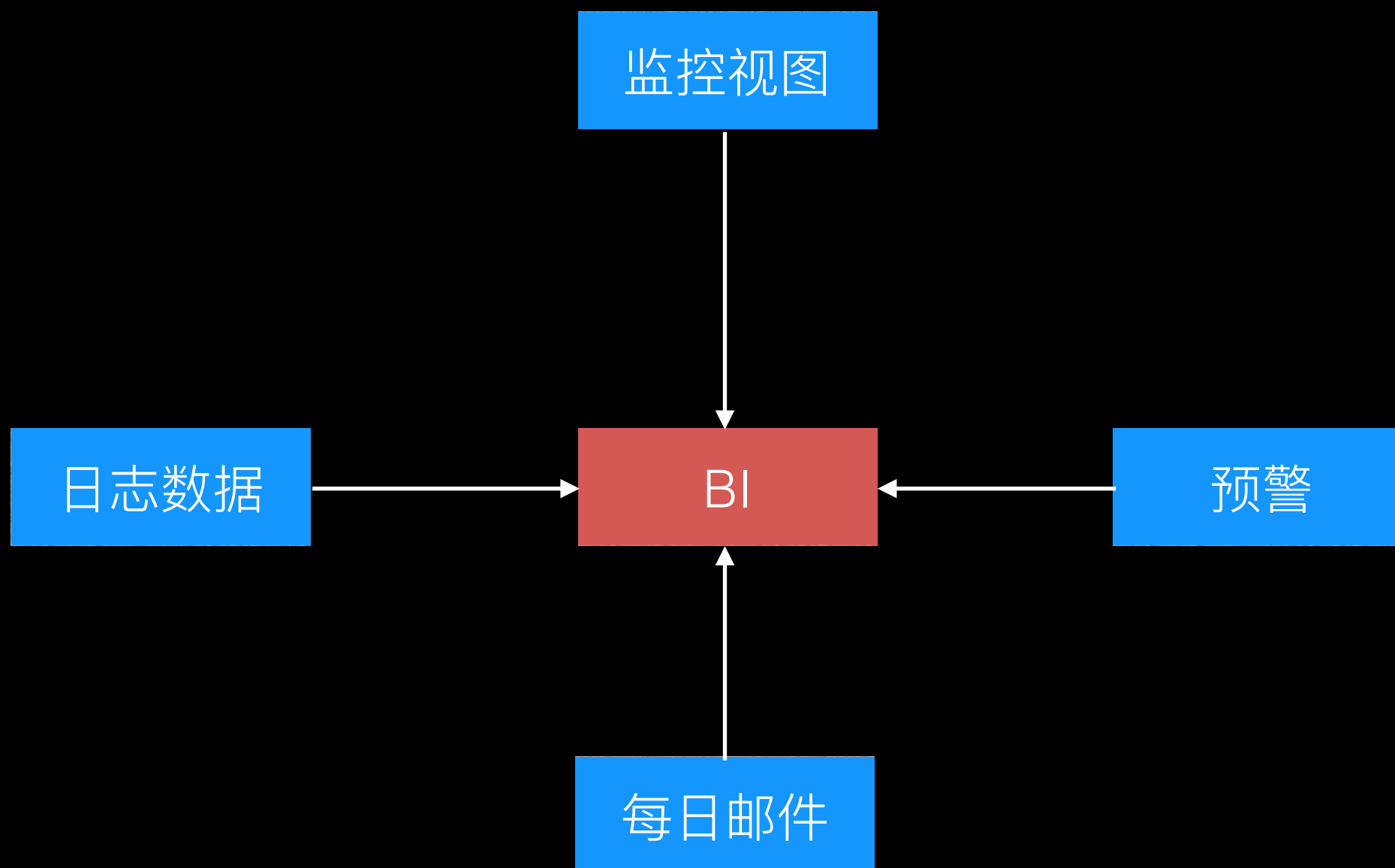
数据优化

- 只保留初始化UI数据操作
- 减少 & 合并 CRUD

启动优化策略

- 地址栏、工具栏截图
 - 假图 ——> 真图
- 启动数据生命周期
 - 全进程

监控启动速度



稳定性

稳定性关键因素

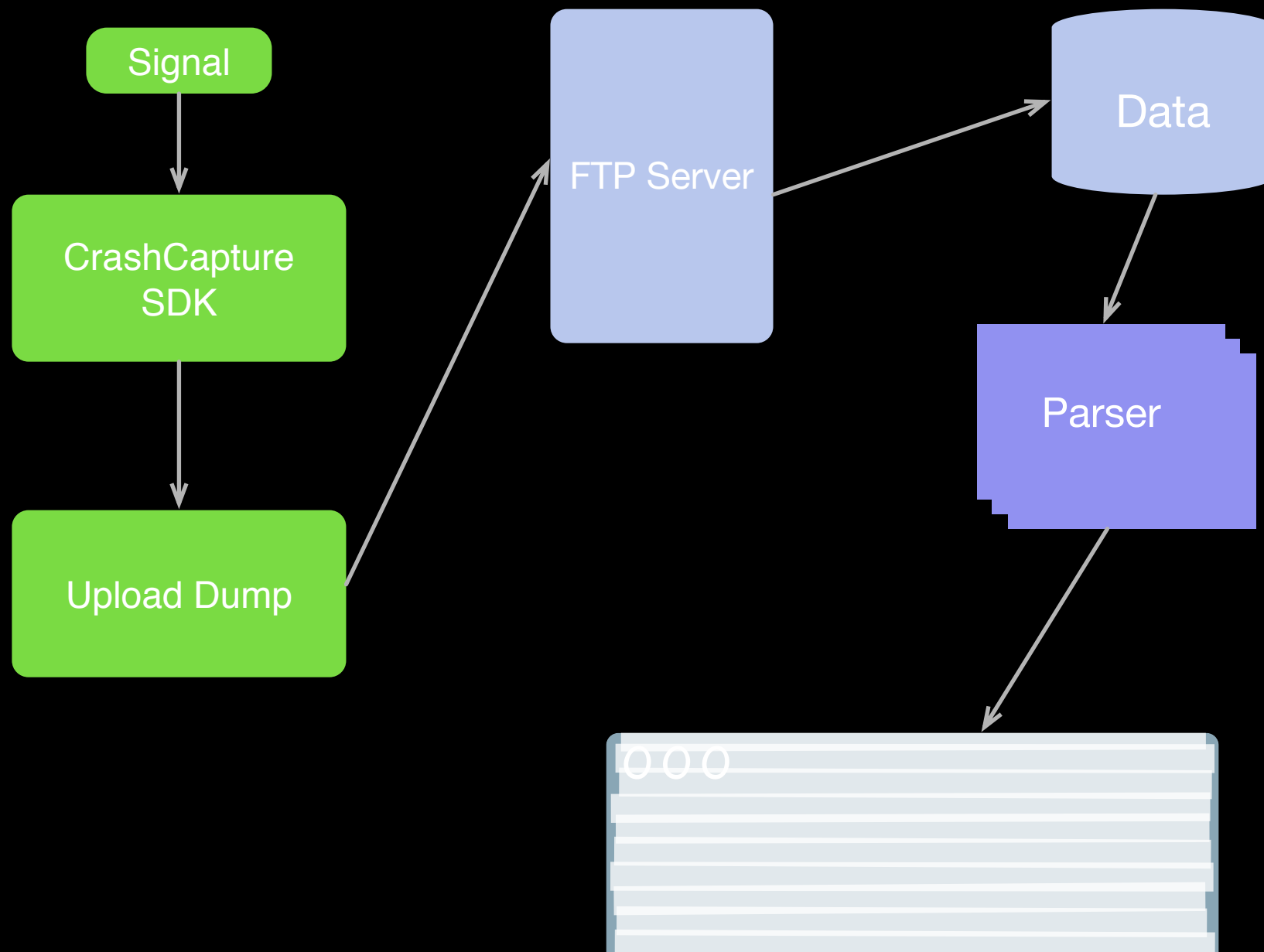


ANR
卡顿

Dalvik
Crash

Native
Crash

Native崩溃捕获平台



Operating system: Android 4.4.4 Linux 3.4.42-ga98722d #1 SMP PREEMPT Thu Jun 11 12:50:29 CDT 2015 armv7l
CPU: arm
ARMv7 ARM part(0x4100c070) features: swp,half,thumb,fastmult,vfpv2,edsp,neon,vfpv3,tls,vfpv4,idiva,idivt
4 CPUs

Crash reason: SIGABRT
Crash address: 0x24da
Process uptime: not available

Thread 40 (crashed)

```
0  libc.so + 0x3b764
   r0 = 0x00000000   r1 = 0x000025b9   r2 = 0x00000006   r3 = 0x00000000
   r4 = 0x9f89ddd8   r5 = 0x00000006   r6 = 0x0000000b   r7 = 0x0000010c
   r8 = 0x00000000   r9 = 0xb86df9b0   r10 = 0xb910b3f0  r12 = 0x000025b9
   fp = 0x00000001   sp = 0x9f88da50   lr = 0xb6f3a691   pc = 0xb6f5f764
Found by: given as instruction pointer in context
1  libc.so + 0x172a1
   sp = 0x9f88da68   pc = 0xb6f3b2a3
Found by: stack scanning
30 libtalk.so!platform::android::ToJavaByteArray [jni.h : 901 + 0x5]
   sp = 0x9f88dc40   pc = 0xa4f6eafd
Found by: stack scanning
31 libtalk.so!platform::android::CCNativeClient::onNativeContent [ccnative_client.cpp : 41 + 0xd]
   r4 = 0xb90527d8   r5 = 0x9f88dc60   r6 = 0x00080039   r7 = 0x002007fd
   r8 = 0x0000000c   sp = 0x9f88dc58   pc = 0xa4f6e8ab
Found by: call frame info
32 libtalk.so!platform::android::AndroidHandlerClient::notify [android_handler_client.cpp : 106 + 0x9]
   r4 = 0xa500d1f0   r5 = 0xb8955990   r6 = 0xb8f8e030   r7 = 0x00080039
   r8 = 0x0000000c   r9 = 0x00000008   sp = 0x9f88dc88   pc = 0xa4f6a697
Found by: call frame info
33 libtalk.so!content::HandlerClientWrapper::notify [handler_client_wrapper.cpp : 23 + 0x5]
   r4 = 0xa4f6a655   r5 = 0xb8a97528   r6 = 0xb8f7d4d0   r7 = 0x9f88dd84
   r8 = 0xb910b0c8   r9 = 0x00000008   sp = 0x9f88dca0   pc = 0xa4f79ee3
Found by: call frame info
34 libtalk.so!network::CmdDispatcher::Recv [cmddispatcher.cpp : 191 + 0x7]
   r4 = 0xa4f76bbd   r5 = 0xb8a97528   r6 = 0xb8f7d4d0   r7 = 0x9f88dd84
   r8 = 0xb910b0c8   r9 = 0x00000008   sp = 0x9f88dca8   pc = 0xa4fbe433
Found by: call frame info
35 libtalk.so!network::CmdDispatcher::Run [cmddispatcher.cpp : 90 + 0xd]
   r4 = 0xb8f7d4d0   r5 = 0x9f88dd88   r6 = 0x0000000d   r7 = 0xa500cdd0
   r8 = 0x9f88dd04   r9 = 0x0000003c   r10 = 0x9f88dcfc   fp = 0x9f88dcf8
   sp = 0x9f88dce0   pc = 0xa4fbe60d
Found by: call frame info
```

Crash Backtrace

Thread 0

```
0  libc.so + 0x126b8
   r0 = 0xb86e92c8   r1 = 0x00000000   r2 = 0x00000062   r3 = 0x00000000
   r4 = 0x00000000   r5 = 0x00000000   r6 = 0x00000000   r7 = 0x000000f0
   r8 = 0x00000062   r9 = 0xb86e92c8   r10 = 0xb8b371cc  r12 = 0xb8b37130
   fp = 0xb5176b40   sp = 0xb8b37120   lr = 0xb4f11e4f   pc = 0xb6f366b8
.....
```

Other Backtrace

```
0xb6c73000 - 0xb6c76fff libETC1.so ???
0xb6cfb000 - 0xb6d35fff libstlport.so ???
0xb6efd000 - 0xb6f00fff libstdc++.so ???
0xb6f24000 - 0xb6f7dfff libc.so ??? (WARNING: No symbols, libc.so, 11DB1157052C7A1422DDB89347B8313B0)
0xb6fa0000 - 0xb6fa1fff app_process32 ??? (main) (WARNING: No symbols, app_process32, AB70C4D488DCC368EF43882516E3C6C90)
```

Why ???

安装包瘦身

代码瘦身

- 合并代码库
- 精简第三方库
 - android-support-v4精简
- 删除无用代码
 - UCDetector
 - Android ProGuard

Thanks