ylog 使用手册

（工具组.天津 ）

ALL MATERIALS INCLUDED HEREIN ARE COPYRIGHTED AND CONFIDENTIAL UNLESS OTHERWISE INDICATED. The information is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination, or other use of or taking of any action in reliance upon this information by persons or entities other than the intended recipient is prohibited.

This document is subject to change without notice. Please verify that your company has the most recent specification.

Copyright © 2016 Spreadtrum Communications Inc.

1. ylog 设计框架.....5
1.1 ylog 结构设计.....5
1.1.1 ylog 源.....5
1.1.2 ydst.....6
1.1.3 cache 缓存.....6
2. ylog 模块.....6
2.1 ylog 输入源与 ydst 对应列表.....7
2.2 ylog 输入源.....7
2.3 ylog 属性列表.....9
2.4 ylog 功能.....10
3. ylog_cli 命令行.....13
3.1 ylog_cli 命令行概览.....13
3.2 ylog_cli 命令行说明.....13
3.2.1 查询类命令行.....14
3.2.2 开关类命令行.....17
3.2.3 设置类命令行.....18
3.2.4 删除类命令行.....23
3.2.5 其他命令行.....23
3.2.6 统计 modem/wcn log 速率.....26
4. ylog 后期 log 分析方法和技巧.....27
4.1 ylog 目录结构.....27
4.2 ylog 文件离线解析.....29
4.3 native crash 和 anr log 分析方法.....30

abbreviation	Description
ylog	your log

Copyright 2016 Spreadtrum Communications Inc.

Revision	Author	Date	Brief
1.0	Luther Ge	2016/02/14	Initial Draft
1.1	Yanli Chen	2016/03/02	Add ylog use help
1.2	Yanli Chen	2016/03/28	Add ylog_cli at/print2android/print2kernel cmd
1.2e	Yue Zhao	2016/03/29	Translate to English
1.3	Yanli Chen	2016/04/01	Add modem/wcn log speed statistics

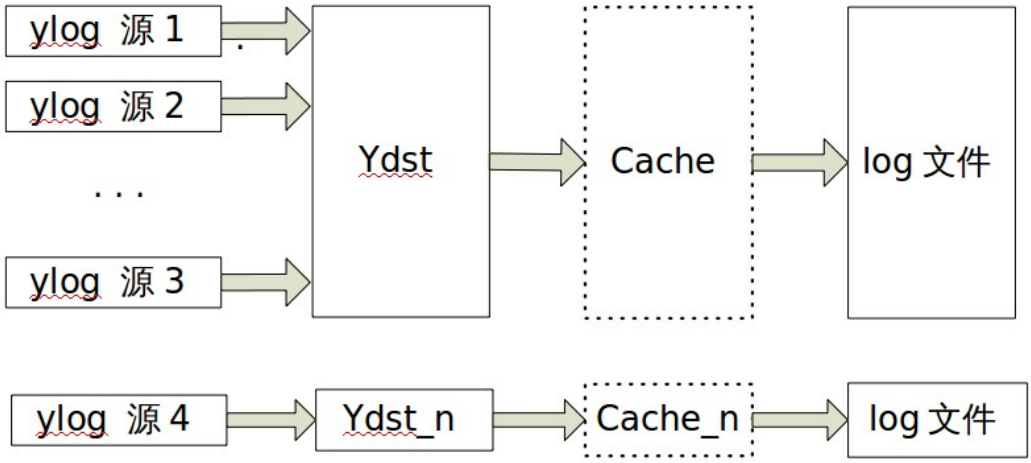
Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

1. ylog 设计框架

ylog(your log)是可定制的后台常驻服务程序，用于完成 log 收集、智能解析、行为统计等

1.1 ylog 结构设计

ylog 服务程序被设计为 3 部分: ylog 源，ydst 和 cache
ylog 源：数据输入源
ydst： 数据输出
cache：用于缓存输出数据



1.1.1 ylog 源

ylog 源重在描述数据输入，比如输入类型， token 和重启时间，当前支持：普通文件、 socket、popen 和 inotify 监测这 4 种类型输入
ylog 参考形式如下：

```
{
.name = "android_main",
.type = FILE_POPEN,
.file = "logcat -v threadtime -b main",
.ydst=&ydst[OS_YDST_TYPE_ANDROID+OS_YDST_TYPE_BASE],
.mode=YLOG_READ_MODE_BLOCK | YLOG_READ_LEN_MIGHT_ZERO | \
YLOG_READ_MODE_BLOCK_RESTART_ALWAYS,
.restart_period = 2000,
.fp_array = NULL,
.id_token = "A0",
.id_token_len = 2,
.id_token_filename = "main.log",
},
```

1.1.2 ydst

ydst 专注在数据输出，从 ylog 描述的输入获取到的数据将被传递给 ydst，ydst 将对数据进行 segment 大小和段个数控制，同时如果数据流量比较大，可以考虑为 ydst 挂靠 cache，来缓解大数据、大吞吐下数据因为磁盘短暂效率问题而出现的数据丢失
ydst 参考形式如下：

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

```
[OS_YDST_TYPE_ANDROID] = {
.file = "android/",
.file_name = "android.log",
.max_segment = 30,
.max_segment_size = 50*1024*1024,
.cache = &os_cacheline[OS_YDST_TYPE_ANDROID],
},
```

1.1.3 cache 缓存

cache 专注在 ydst 数据输出如何被缓存，随后择机写入磁盘存储，为了保证尽快回写磁盘， cache 有一个 timeout 属性，用来定义一种行为： cache line 如果在 timeout 内仍未填满，那么 cache line 中数据将被强行 flush 回磁盘

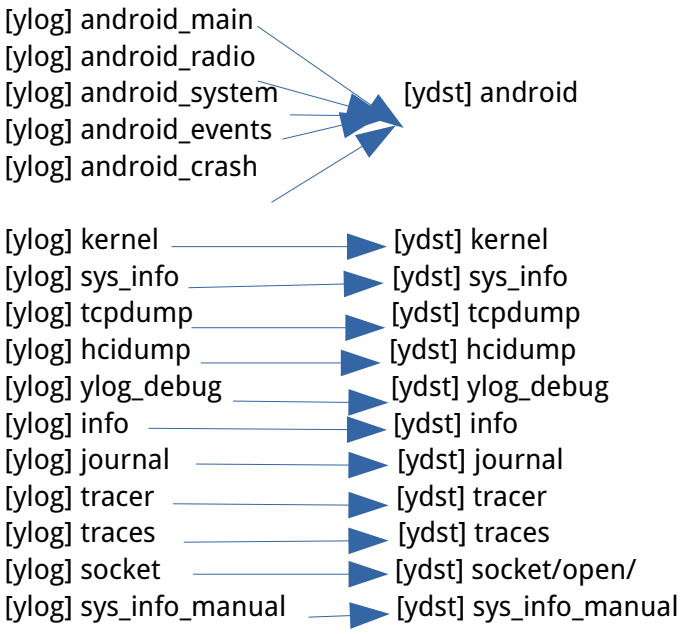
```
[OS_YDST_TYPE_ANDROID] = {
.size = 512 * 1024,
.num = 4,
.timeout = 1000, /* ms */
.debuglevel = CACHELINE_DEBUG_CRITICAL,
}
```

2. ylog 模块

ylog 是在 init.rc 中启动的一个用户空间的服务程序，persist.ylog.enabled 属性值可以辅助控制开机后 ylog 默认启动行为。ylog 模块不仅支持多个 ylog 源并行输入，还支持多个 ydst 并行输出。根据 ylog 源数据结构，指定 ydst 输出，并设定 ydst 输出是否挂靠 cache、重启时间间隔、达到段上限值后是否进行覆盖等

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

2.1 ylog 输入源与 ydst 对应列表



2.2 ylog 输入源

1、android 类

包含 android_main、 android_radio、 android_system、 android_events、 android_crash 等五类 log，共同输出到一个 ydst 中，为了提高磁盘效率，此 ydst 默认挂靠 2M 大小的 cache

2、kenel

收集 kernel log，kernel ydst 默认挂靠 1M 大小的 cache

3、sys_info

定期（2 分钟）收集系统相关 log，具体包括以下信息：

/proc/slabinfo
/proc/buddyinfo
/proc/zoneinfo
/proc/vmstat
/proc/vmallocinfo
/proc/pagetypeinfo
/sys/module/lowmemorykiller/parameters/adj
/sys/module/lowmemorykiller/parameters/minfree
/proc/wakelocks
/d/wakeup_sources
/sys/class/backlight/sprd_backlight/brightness
/sys/kernel/debug/binder/failed_transaction_log
/sys/kernel/debug/binder/transaction_log
/sys/kernel/debug/binder/transactions
/sys/kernel/debug/binder/stats
/sys/kernel/debug/binder/state
/sys/kernel/debug/sprd_debug/cpu/cpu_usage

4、tcpdump

用于收集 ap cap log，tcpdump ydst 默认挂靠 1M 大小的 cache

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

5、hcidump

用于收集 hci bt log，hcidump ydst 默认挂靠 1M 大小的 cache

6、ylog_debug

用于收集 log 相关的调试信息，包含 log 速率，空间使用、运行状态等信息，每 20 分钟统计一次

/system/bin/ylog_cli ylog
/system/bin/ylog_cli speed
/system/bin/ylog_cli space
getprop ylog.killed

7、info

用于收集系统相关静态信息，只会在 ylog 启动时捕获一次

/proc/cmdline
/proc/version
/proc/meminfo
/proc/mounts
/proc/partitions
/proc/diskstats
/proc/modules
/proc/cpuinfo
/default.prop
/data/ylog/ylog.conf
ls -l /
ls -l /dev/block/platform/*/by-name/
ls -l /dev/
getprop
cat /*.rc
ylog 所有线程 pid 和 tid

8、journal

用于监控 ylog 进程运行状态，开关设置，log 文件删除等

```
at /data/ylog/ylog_journal_file                                    <
[01-01 08:06:35.701] ylog.start success - up time: 00:06:37, idle time: 00:05:05, sleep time: 00:01:50
[01-01 08:06:55.249] ylog.start success - up time: 00:00:05, idle time: 00:00:10, sleep time: 00:00:00
[01-01 08:07:47.919] ylog hcidump start
[01-01 08:18:02.044] ylog.start success - up time: 00:00:04, idle time: 00:00:09, sleep time: 00:00:00
[01-01 08:22:02.191] ylog.start success - up time: 00:03:17, idle time: 00:04:41, sleep time: 00:00:00
[01-01 08:22:13.044] ylog.start success - up time: 00:00:04, idle time: 00:00:09, sleep time: 00:00:00
[01-01 08:28:35.088] ylog hcidump start
[01-01 08:29:31.449] clear last_ylog /storage/BE60-0FE5/ylog/last_ylog
[01-01 08:29:31.976] clear all ylog and reboot /storage/BE60-0FE5/ylog/ylog
[01-01 08:29:31.978] clear all ylog /storage/BE60-0FE5/ylog/ylog
[01-01 08:29:31.988] ylog.stop with signal 15, Terminated, sdcard is online
[01-01 08:29:32.100] ylog.start success - up time: 00:07:23, idle time: 00:08:52, sleep time: 00:00:00
[01-01 08:32:11.281] ylog hcidump start
[01-01 08:37:24.808] ylog.start success - up time: 00:15:16, idle time: 00:16:49, sleep time: 00:00:00
[01-01 08:38:24.745] ylog.start success - up time: 00:16:16, idle time: 00:17:51, sleep time: 00:00:00
[01-01 08:53:12.028] clear last_ylog /storage/BE60-0FE5/ylog/last_ylog
[01-01 08:53:14.542] clear all ylog /storage/BE60-0FE5/ylog/ylog
[01-01 08:53:51.364] clear last_ylog /storage/BE60-0FE5/ylog/last_ylog
[01-01 08:53:51.582] clear all ylog and reboot /storage/BE60-0FE5/ylog/ylog
```

9、tracer

tracer 读取/d/tracing/trace_pipe 数据切片存储，允许内核对时间要求苛刻 的驱动模块（比如：usb）添加调试 log 调整 quota 值

10、traces

用于收集发生 native crash 时的 tombstones 信息和发生 anr 时的 traces 堆栈信息

11、socket

开放 ylog 网络 socket 端口，接收来自 ylog_benchmark 评测软件发送大数据，用来查找软件和系统瓶颈

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

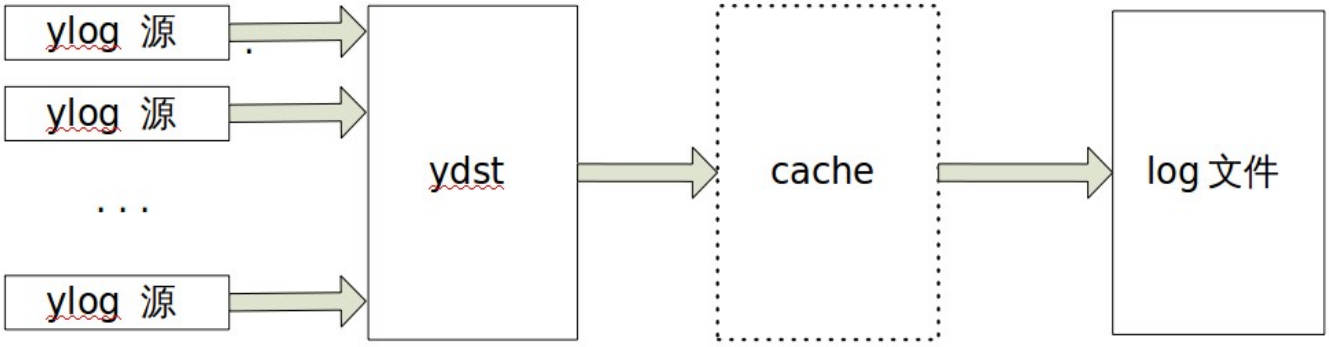
13、sys_info_manual
手动触发 ylog 抓取 "busybox netstat -ap"和"ps -t"的执行结果

2.3 ylog 属性列表

1、以下属性值表明各类 log 的运行状态
[ylog.svc.android_crash]: [running]
[ylog.svc.android_events]: [running]
[ylog.svc.android_main]: [running]
[ylog.svc.android_radio]: [running]
[ylog.svc.android_system]: [running]
[ylog.svc.kernel]: [running]
[ylog.svc.tcpdump]: [stopped]
[ylog.svc.hcidump]: [stopped]
[ylog.svc.info]: [stopped]
[ylog.svc.journal]: [running]
[ylog.svc.socket]: [running]
[ylog.svc.sys_info]: [running]
[ylog.svc.sys_info_manual]: [stopped]
[ylog.svc.tracer]: [running]
[ylog.svc.traces]: [running]
[ylog.svc.ylog_debug]: [running]
2、ylog service 总开关控制
[persist.ylog.enabled]: [1]
3、t 卡被卸载次数
[ylog.killed]: [0]

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

2.4 ylog 功能



1、易于后期维护，抽象出 3 个数据模型：ylog，ydst 和 cache
2、cache 来缓解常规情况下磁盘压力和大数据吞吐下 log 丢失
3、filter 关键字过滤，能够对接收数据进行检索，并触发相应动作响应：执行 shell 或者其他操作收集更多信息，更有效的辅助问题定位（让 ylog 系统更加 smart 的做实时分析和环境捕获）
4、根据磁盘实际剩余空间分配 log 文件写入上限，动态调整 quota 值

```
I ylog    : ydst <sys_info/> resize_segment from:
I ylog    : quota 200.00M -> 4.62G
I ylog    : max_segment_size 50.00M -> 50.00M (50.00M)
I ylog    : max_segment 1 -> 8 (5)
I ylog    : max_size 50.00M -> 400.00M (250.00M)
I ylog    : shrinked_segments=0/1
I ylog    : [02-18 11:54:05.909] ylog<critical> All ydst has finished resize: quota 200.00M -> 4.62G
I ylog    : [02-18 11:54:05.909] ylog<info> create /storage/32DB-1D43/ylog/ylog/kernel/analyzer.py
I ylog    : [02-18 11:54:05.914] ylog<info> create /storage/32DB-1D43/ylog/ylog/sys_info/analyzer.py
I ylog    : [02-18 11:54:05.960] ylog<info> create /storage/32DB-1D43/ylog/ylog/android/analyzer.py
I ylog    : [02-18 11:54:05.964] ylog<info> create /storage/32DB-1D43/ylog/ylog/sys_info/analyzer.py
I ylog    : [02-18 11:54:05.969] ylog<info> create /storage/32DB-1D43/ylog/ylog/android/analyzer.py
I ylog    : [02-18 11:54:05.973] ylog<info> create /storage/32DB-1D43/ylog/ylog/android/analyzer.py
I ylog    : [02-18 11:54:05.979] ylog<info> create /storage/32DB-1D43/ylog/ylog/android/analyzer.py
I ylog    : [02-18 11:54:05.985] ylog<info> create /storage/32DB-1D43/ylog/ylog/android/analyzer.py
I ylog    : [02-18 11:54:06.013] ylog<critical> All ydst resize done
I ylog    : [02-18 11:54:06.023] ylog<info>  1.69% ydst socket/open/ size 80.00M
I ylog    : [02-18 11:54:06.023] ylog<info>  0.75% ydst ylog_debug size 35.45M
I ylog    : [02-18 11:54:06.023] ylog<info>  0.75% ydst info size 35.45M
I ylog    : [02-18 11:54:06.023] ylog<info>  0.75% ydst ylog_journal_file size 35.45M
I ylog    : [02-18 11:54:06.023] ylog<info> 58.11% ydst android/ size 2.69G
I ylog    : [02-18 11:54:06.024] ylog<info> 17.96% ydst kernel/ size 850.00M
I ylog    : [02-18 11:54:06.024] ylog<info>  1.06% ydst tracer/ size 50.00M
I ylog    : [02-18 11:54:06.024] ylog<info>  2.96% ydst tcpdump/ size 140.00M
I ylog    : [02-18 11:54:06.024] ylog<info>  7.18% ydst traces/ size 340.00M
I ylog    : [02-18 11:54:06.027] ylog<info>  8.45% ydst sys_info/ size 400.00M
```

5、对 ylog 进程状态监控，journal 日志永久性存储到/data/ylog /ylog_journal_file 来辅助分析系统行为

```
root@sp7731g_1h10:/storage/32DB-1D43/ylog/ylog/android # cat /data/ylog/ylog_journal_file
[02-17 22:43:34.685] ylog.start success - up time: 00:02:09, idle time: 00:02:14, sleep time: 00:00:00
[02-18 11:53:34.080] ylog.stop with signal 15, Terminated, sdcard is offline
[02-18 11:53:34.344] ylog.start success - up time: 13:12:09, idle time: 12:25:04, sleep time: 00:01:16
[02-18 13:07:34.825] ylog.start success - up time: 00:00:07, idle time: 00:00:18, sleep time: 00:00:00
```

6、ylog_cli speed 查询自运行以来最快的 10 次吞吐信息：log 产生速率

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

```
Transfered 3.72G Has run 00 day 01:15:01 avg_speed=867.17K/s
01. [02-18 14:06:58.600] ~ [02-18 14:06:59.600] 00 day 00:59:25 ago 20.02M/s
02. [02-18 14:08:01.618] ~ [02-18 14:08:02.618] 00 day 01:00:28 ago 20.02M/s
03. [02-18 14:06:10.585] ~ [02-18 14:06:11.585] 00 day 00:58:37 ago 20.01M/s
04. [02-18 14:08:10.620] ~ [02-18 14:08:11.620] 00 day 01:00:37 ago 20.01M/s
05. [02-18 14:06:09.585] ~ [02-18 14:06:10.585] 00 day 00:58:36 ago 20.01M/s
06. [02-18 14:05:44.579] ~ [02-18 14:05:45.579] 00 day 00:58:11 ago 20.01M/s
07. [02-18 14:06:41.593] ~ [02-18 14:06:42.593] 00 day 00:59:08 ago 20.01M/s
08. [02-18 14:07:59.617] ~ [02-18 14:08:00.617] 00 day 01:00:26 ago 20.01M/s
09. [02-18 14:05:58.582] ~ [02-18 14:05:59.582] 00 day 00:58:25 ago 20.01M/s
10. [02-18 14:06:03.583] ~ [02-18 14:06:04.584] 00 day 00:58:30 ago 20.01M/s
```

7、内置 analyzer.py，用来离线数据处理

8、多个数据可以同时输出到一个 ydst 中，保证所有 log 时间戳都在同一时间窗体内

9、通过 ylog_cli kernel 可以实时获取 kernel log，最多支持 4 个独立 ylog_cli 同时操作

```
130|root@sp9830a_5h10_volte:/system/bin # ylog_cli kernel
[01-01 11:45:07.143] <4>[13346.955291] c0 sensor id:0, rawdata:0x320, temp:33582
[01-01 11:45:07.143] <6>[13347.647766] c0 cpufreq_scx35: --xing-- set 1350000 khz for cpu0
[01-01 11:45:07.213] <6>[13347.647827] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 925000 = 900000 +25000uV(trim 0x8)
[01-01 11:45:07.213] <6>[13347.647918] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 950000 = 900000 +50000uV(trim 0x10)
[01-01 11:45:07.213] <6>[13347.647979] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 975000 = 900000 +75000uV(trim 0x18)
[01-01 11:45:07.213] <6>[13347.648040] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 1000000 = 1000000 +0uV(trim 0x0)
[01-01 11:45:07.213] <6>[13347.649932] c0 cpufreq_scx35: chip id is 96300000
[01-01 11:45:07.213] <6>[13347.649932] c0 cpufreq_scx35: 768000 --> 1350000, real=1350000, index=1
[01-01 11:45:07.213] <6>[13347.649963] c0 cpufreq_sprdemand: !!  we gonna plugin cpu1  !!
[01-01 11:45:07.214] <4>[13347.651306] c1 CPU1: Booted secondary processor
[01-01 11:45:07.214] <6>[13347.717681] c0 cpufreq_scx35: --xing-- set 768000 khz for cpu0
[01-01 11:45:07.263] <6>[13347.717773] c0 cpufreq_scx35: chip id is 96300000
[01-01 11:45:07.263] <6>[13347.717834] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 975000 = 900000 +75000uV(trim 0x18)
[01-01 11:45:07.263] <6>[13347.717895] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 950000 = 900000 +50000uV(trim 0x10)
[01-01 11:45:07.263] <6>[13347.717956] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 925000 = 900000 +25000uV(trim 0x8)
[01-01 11:45:07.263] <6>[13347.718017] c0 regu: @@@dcdc_set_voltage: regu 0xec542138 (vddarm) 900000 = 900000 +0uV(trim 0x0)
[01-01 11:45:07.263] <6>[13347.718078] c0 cpufreq_scx35: 1350000 --> 768000, real=768000, index=3
[01-01 11:45:07.264] <6>[13347.767700] c0 cpufreq_sprdemand: !!  we gonna unplug cpu1  !!
```

10、可通过段数信息查询 log 是否达到段数上限，是否发生了 log 覆盖

```
A1[ylog_segment=0/1,50.00M] 2016.02.18 13:07:37 -00d00:00:02/2174ms 0.00B/50.00M 0.00B/s
A102-18 13:07:33.370   185   185 I vold    : Vold 3.0 (the awakening) firing up
A102-18 13:07:33.375   185   185 V vold    : Detected support for: ext4 vfat
A102-18 13:07:33.669   185   197 V vold    : /system/bin/sgdisk
A102-18 13:07:33.669   185   197 V vold    :     --android-dump
A302-18 13:07:31.050   171   171 I auditd  : type=1403 audit(0.0:2): policy loaded auid=4294967295 ses=
A102-18 13:07:33.670   185   197 V vold    :     /dev/block/vold/disk:179,128
A102-18 13:07:33.845   185   197 V vold    : DISK gpt 3BEB08F8-4CDD-4037-8283-5F54ADDA76B8
A302-18 13:07:31.050   171   171 I auditd  : type=1404 audit(0.0:3): enforcing=1 old_enforcing=0 auid=4
A202-18 13:07:34.480   295   295 I use-Rlog/RLOG-RILD: [
A202-18 13:07:34.550   295   295 D use-Rlog/RLOG-RILD: [1] Rild: rilArgv[1]=-n,rilArgv[2]=1,ModemType=w
A302-18 13:07:31.430     1     1 I auditd  : type=1400 audit(0.0:4): avc: denied { create } for comm="i
A202-18 13:07:34.550   295   295 D use-Rlog/RLOG-RIL: [1] rild connect w modem, current is rild1
A302-18 13:07:31.430     1     1 I auditd  : type=1400 audit(0.0:5): avc: denied { create } for comm="i
A302-18 13:07:31.430     1     1 I auditd  : type=1400 audit(0.0:6): avc: denied { create } for comm="i
A202-18 13:07:34.550   295   295 D use-Rlog/RLOG-RIL: [1] RIL enter multi sim card mode!
```

11、sys_info 每 2 分钟执行系统信息统计收集操作，数据被切片存储

12、评测磁盘读写速率和 ylog 可读写数据速度瓶颈上限：ylog_cli benchmark

Copyright 2016 Spreadtrum Communications Inc.

```
root@sp9830a_5h10_volte:/system/bin # ylog_cli benchmark
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 9.28M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 5.77M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 4.96M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 5.38M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 3.85M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 3.95M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 4.81M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 3.96M/s
cmd_benchmark -> /storage/90D5-BAE2/ylog/ylog/socket/open/000 speed 5.33M/s
```

13、tracer 读取/d/tracing/trace_pipe 数据切片存储，允许内核对时间要求苛刻 的驱动模块（比如：usb）添加调试 log 调整 quota 值

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

3. ylog_cli 命令行

可通过 adb shell ylog_cli 命令获取 ylog_cli 命令行帮助信息。

```
root@sp7731g_1h10:/ # ylog_cli
=== [ ylog server supported commands ] ===
kernel     -- read kernel log
-c         -- execute shell command, ex. ylog_cli -c ls / or ylog_cli -c top
flush      -- flush all the data back to disk
loglevel   -- 0:error, 1:critical, 2:warn, 3:info, 4:debug
speed      -- max speed since ylog start
time       -- show the time info
ylog       -- list all existing ylog, also can start or stop it, ex.
              ylog_cli ylog                      - show each ylog short description
              ylog_cli ylog kenrel               - show ylog kernel detailed description
              ylog_cli ylog all                  - show each ylog detailed description
              ylog_cli ylog all stop             - turn off all running ylog
              ylog_cli ylog all start            - turn on the previous all running ylog
              ylog_cli ylog kernel stop          - turn off the kernel ylog
              ylog_cli ylog kernel start         - turn on the kernel ylog
              ylog_cli ylog kernel get started - get the running status of kernel ylog
              ylog_cli ylog kernel timestamp 1 - 1 with timestamp, 0 without
              ylog_cli ylog kernel bypass    1 - 1 just read, not store to disk or cache, 0 store
              ylog_cli ylog kernel ydst max_segment 5       - ajust ydst segments to 5
              ylog_cli ylog kernel ydst max_segment_size 20 - ajust ydst each segment size to 20M
              ylog_cli ylog kernel ydst segment_size 5 20   - ajust ydst segments to 5, size to 20M
              ylog_cli ylog kernel cache bypass 1           - data in the cache, 1 droped, 0 save to disk
              ylog_cli ylog kernel cache timeout 500        - cacheline timeout to 500ms
              ylog_cli ylog kernel cache debuglevel 0x03    - bit0: INFO, bit1: CRITICAL, bit7: DATA
cpath      -- change log path, named 'ylog' will be created under it, ex. ylog_cli cpath /sdcard/
quota      -- give a new quota for the ylog (unit is 'M') 500M ex. ylog_cli quota 500
rylog      -- last_ylog, remove the last_ylog folder
ryloga     -- all ylog, remove the last_ylog folder and also all the current saved ylog
rylogr     -- all ylog and restart, remove last_ylog and ylog folder, then restart ylog service
space      -- check ylog root folder and last_ylog the size of taking up
freespace  -- check ylog root folder free size left now
isignal    -- 1:ignore signal, 0:process signal(default)
benchmark  -- while (1) write data to ylog/socket/open/ without timestamp
benchmarkt -- while (1) write data to ylog/socket/open/ with timestamp
test       -- test from android
rootdir    -- get the log disk root dir
cpath_last -- get the last_ylog path
history_n  -- set keep_historical_folder_numbers
setprop    -- set property, ex. ylog_cli setprop persist.ylog.enabled 1
at         -- send AT command to cp side, ex. ylog_cli at AT+ARMLOG=1 or ylog_cli at AT+CGMR
print2android -- write data to android system log
print2kernel  -- write_data to kernel log
```

3.1 ylog_cli 命令行概览

3.2 ylog_cli 命令行说明

ylog_cli 通过 socket 方式与 ylog 进程进行通信，支持多类命令行，可分为：查询类、开关类、设置类、删除类和其他。

3.2.1 查询类命令行

1、查询 ylog 进程从启动以来的速度前 10 名

2、查询各类 log 开关状态，段上限值、单个段大小上限值、log 传输量

```
Transfered 7.08M Has run 00 day 00:24:41 avg_speed=4.89K/s
01. [01-01 08:00:10.818] ~ [01-01 08:00:11.818] 00 day 00:00:09 ago 359.87K/s
02. [01-01 08:00:19.838] ~ [01-01 08:00:20.847] 00 day 00:00:18 ago 261.90K/s
03. [01-01 08:00:18.838] ~ [01-01 08:00:19.838] 00 day 00:00:17 ago 201.25K/s
04. [01-01 08:24:24.362] ~ [01-01 08:24:25.363] 00 day 00:24:23 ago 182.42K/s
05. [01-01 08:04:39.867] ~ [01-01 08:04:40.868] 00 day 00:04:38 ago 182.17K/s
06. [01-01 08:16:43.176] ~ [01-01 08:16:44.176] 00 day 00:16:41 ago 180.07K/s
07. [01-01 08:02:39.823] ~ [01-01 08:02:40.823] 00 day 00:02:38 ago 180.04K/s
08. [01-01 08:18:43.227] ~ [01-01 08:18:44.227] 00 day 00:18:41 ago 178.38K/s
09. [01-01 08:12:42.063] ~ [01-01 08:12:43.063] 00 day 00:12:40 ago 177.89K/s
10. [01-01 08:08:40.959] ~ [01-01 08:08:41.959] 00 day 00:08:39 ago 177.69K/s
```

命令格式：adb shell ylog_cli ylog
响应格式：
root:显示当前 log 的存储路径
quota:log 存储空间上限值
running：表示 ylog 运行时间

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/whale2/vendor/sprd/proprietories-source/ylog$ adb shell ylog_cli ylog
-----------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.61G, running 00 day 00:50:00   root:log存储路径   quota：log存储空间上限  running：ylog运行时间
--log 类别---------------开关状态------------------------------------------段数上限值 单段大小上限值    占用总空间比例                cache大小     log传输量
benchmark_socket     -> running  -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 (13x10.00M/130.00M, 1.92%) -> cache.socket/open/(2x512.00K) [0.00B/0.00B]
socket               -> running  -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 (13x10.00M/130.00M, 1.92%) -> cache.socket/open/(2x512.00K) [0.00B/0.00B]
ylog_debug           -> running  -> /storage/BE60-0FE5/ylog/ylog/ylog_debug (1x53.07M/53.07M, 0.78%) [50.80K/50.80K]
info                 -> stop     -> /storage/BE60-0FE5/ylog/ylog/info (1x53.07M/53.07M, 0.78%) [108.27K/108.27K]
journal              -> running  -> /storage/BE60-0FE5/ylog/ylog/ylog_journal_file (1x53.07M/53.07M, 0.78%) [1.90K/1.90K]
kernel               -> running  -> /storage/BE60-0FE5/ylog/ylog/kernel/000 (26x50.00M/1.27G,19.21%) -> cache.kernel/(2x512.00K) [2.10M/2.10M]
tracer               -> running  -> /storage/BE60-0FE5/ylog/ylog/tracer/000 (7x10.00M/70.00M, 1.03%) -> cache.tracer/(2x512.00K) [968.00B/968.00B]
android_main         -> running  -> /storage/BE60-0FE5/ylog/ylog/android/000 (81x50.00M/3.96G,59.86%) -> cache.android/(4x512.00K) [2.51M/4.90M]
android_system       -> running  -> /storage/BE60-0FE5/ylog/ylog/android/000 (81x50.00M/3.96G,59.86%) -> cache.android/(4x512.00K) [431.70K/4.90M]
android_radio        -> running  -> /storage/BE60-0FE5/ylog/ylog/android/000 (81x50.00M/3.96G,59.86%) -> cache.android/(4x512.00K) [1.89M/4.90M]
android_events       -> running  -> /storage/BE60-0FE5/ylog/ylog/android/000 (81x50.00M/3.96G,59.86%) -> cache.android/(4x512.00K) [86.07K/4.90M]
android_crash        -> running  -> /storage/BE60-0FE5/ylog/ylog/android/000 (81x50.00M/3.96G,59.86%) -> cache.android/(4x512.00K) [0.00B/4.90M]
tcpdump              -> stop     -> /storage/BE60-0FE5/ylog/ylog/tcpdump/000 (15x20.00M/300.00M, 4.43%) -> cache.tcpdump/(2x512.00K) [0.00B/0.00B]
hcidump              -> running  -> /storage/BE60-0FE5/ylog/ylog/hcidump/000 (26x20.00K/520.00K, 0.01%) -> cache.hcidump/(2x512.00K) [8.16K/8.16K]
traces               -> running  -> /storage/BE60-0FE5/ylog/ylog/traces/000 (5x20.00M/100.00M, 1.48%) [0.00B/0.00B]
sys_info             -> running  -> /storage/BE60-0FE5/ylog/ylog/sys_info/000 (13x50.00M/650.00M, 9.61%) [3.92M/3.92M]
sys_info_manual      -> stop     -> /storage/BE60-0FE5/ylog/ylog/sys_info/000 (13x50.00M/650.00M, 9.61%) [0.00B/3.92M]
```

3、查询单个 log 开关状态（同 ylog.svc.xxx）
命令格式：ylog_cli ylog xxx get started
响应格式为：
打开状态： 1\n
关闭状态： 0\n
注：xxx 可分别为：android_main android_system android_radio android_events android_crash tcpdump hcidump kernel

4、查询 log 存储路径
命令格式：adb shell ylog_cli cpath
响应格式：
不插 t 卡时：
/data/ylog/ylog 内部存储不支持保存历史 log
插 t 卡时：
/storage/BE60-0FE5/ylog/ylog
/storage/BE60-0FE5/ylog/last_ylog

5、查询 log 空间占用情况
命令格式：adb shell ylog_cli space
响应 格式：

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/tmp/ylog/android/test$ adb shell ylog_cli space
12.31G  (quota)   quota 大小
/storage/1A19-EA5B/ylog/ylog -> 13.65G (freespace)  t 卡剩余空间
730M    /storage/1A19-EA5B/ylog/last_ylog  last_log 占用情况
19M     /storage/1A19-EA5B/ylog/ylog  当前log总量
```

6、 查询 log 所在磁盘剩余空间
命令格式：adb shell ylog_cli freespace
响应格式：
/storage/BE60-0FE5/ylog/ylog -> 7.32G

7、查询 log 所在磁盘路径
命令格式：adb shell ylog_cli rootdir
响应格式：
/storage/BE60-0FE5

8、查询历史 log 保留次数
命令格式：adb shell ylog_cli history_n
响应格式：5\n 默认保留 5 次历史 log

9、查询单个 ylog 源的相关信息

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

```
root@sp9830a_5h10_volte:/ # ylog_cli ylog android_main
--------------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.58G, running 00 day 00:15:47
--------------------------------------------------------------------------------
[ android_main ] = running {
    .loglevel = 3
    .file = logcat -v threadtime -b main
    .restart_period = 2000
    .timestamp = 0
    .bypass = 0
    .mode = 194
    .ydst = 764.78K/2.33M {
        .file = /storage/BE60-0FE5/ylog/ylog/android/000
        .max_segment  = 80
        .max_segment_size  = 50.00M
        .cache= {
            .size = 512.00K
            .num = 4
            .bypass = 0
            .timeout = 1000ms
            .debuglevel = 0x02
        }
    }
}
```

命令格式：adb shell ylog_cli ylog xxx
响应格式：输出 ylog 源的输入类型、存储路径、cache 大小等信息
注：xxx 可分别为：android_main android_system android_radio android_events android_crash tcpdump hcidump kernel

10、查询所有 log 相关信息

命令格式：adb shell ylog_cli ylog all
响应格式：输出所有 log 的输入类型、存储路径、cache 大小等信息

3.2.2 开关类命令行

1、ylog 总开关设置

命令行格式：
start ylog 进程：adb shell setprop persist.ylog.enabled 1 -----> persist.ylog.enabled 1
stop ylog 进程：adb shell setprop persist.ylog.enabled 0 -----> persist.ylog.enabled 0

2、所有 log 开关统一设置

命令格式：adb shell ylog_cli ylog all start/stop
响应格式：输出所有 log 的开关状态、存储路径、cache 大小等信息

3、单个 log 开关设置

命令格式：adb shell ylog_cli ylog xxx start/stop
响应格式：输出该 log 的数据结构信息

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/whale2/device/sprd/whale2/common$ adb shell ylog_cli ylog  kernel stop
--------------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.58G, running 00 day 00:35:28
--------------------------------------------------------------------------------
[ kernel ] = stopped {                    开关状态为：关闭
    .loglevel = 3
    .file = /proc/kmsg
    .restart_period = 300
    .timestamp = 1
    .bypass = 0
    .mode = 194
    .ydst = 1.14M/1.14M {
        .file = /storage/BE60-0FE5/ylog/ylog/kernel/000
        .max_segment  = 3
        .max_segment_size  = 50.00M
        .cache= {
            .size = 512.00K
            .num = 2
            .bypass = 0
            .timeout = 1000ms
            .debuglevel = 0x02
        }
    }
}
```

3.2.3 设置类命令行

1、设置 log 段数最大值

命令格式：adb shell ylog_cli ylog xxx ydst max_segment n

响应格式：输出 log 的数据结构信息

```
root@sp9830a_5h10_volte:/ # ylog_cli ylog kernel ydst max_segment 3
--------------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.58G, running 00 day 00:30:48
--------------------------------------------------------------------------------
[ kernel ] = running {
    .loglevel = 3
    .file = /proc/kmsg
    .restart_period = 300
    .timestamp = 1
    .bypass = 0
    .mode = 194
    .ydst = 1.01M/1.01M {
        .file = /storage/BE60-0FE5/ylog/ylog/kernel/000
        .max_segment  = 3          段数最大值为：3
        .max_segment_size  = 50.00M
        .cache= {
            .size = 512.00K
            .num = 2
            .bypass = 0
            .timeout = 1000ms
            .debuglevel = 0x02
        }
    }
}
```

2、设置 log 单个文件大小,单位为：M

命令行格式：adb shell ylog_cli ylog xxx ydst max_segment_size 20

响应格式：输出 log 的数据结构信息

Copyright 2016 Spreadtrum Communications Inc.

```
--------------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.58G, running 00 day 00:40:45
--------------------------------------------------------------------------------
[ kernel ] = stopped {
    .loglevel = 3
    .file = /proc/kmsg
    .restart_period = 300
    .timestamp = 1
    .bypass = 0
    .mode = 194
    .ydst = 1.14M/1.14M {
        .file = /storage/BE60-0FE5/ylog/ylog/kernel/000
        .max_segment  = 3
        .max_segment_size  = 100.00M → 单段log最大值
        .cache= {
            .size = 512.00K
            .num = 2
            .bypass = 0
            .timeout = 1000ms
            .debuglevel = 0x02
        }
    }
}
```

3、同时设置 log 段数最大值和单段 log 大小上限值

命令格式：adb shell ylog_cli ylog xxx ydst segment_size 5 20

响应格式：输出 log 的数据结构信息

```
--------------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.58G, running 00 day 00:48:33
--------------------------------------------------------------------------------
[ kernel ] = stopped {
    .loglevel = 3
    .file = /proc/kmsg
    .restart_period = 300
    .timestamp = 1
    .bypass = 0
    .mode = 194
    .ydst = 1.14M/1.14M {
        .file = /storage/BE60-0FE5/ylog/ylog/kernel/000
        .max_segment  = 6 → 段数最大值为：6
        .max_segment_size  = 25.00M
        .cache= {
            .size = 512.00K
            .num = 2 → 单段log最大值：25 M
            .bypass = 0
            .timeout = 1000ms
            .debuglevel = 0x02
        }
    }
}
```

4、设置通过 ylog_cli 命令行实时打印 kernel log 时是否打印时间戳

命令格式：adb shell ylog_cli ylog kernel timestamp 1/0

1： 打印时间戳

0：不打印时间戳

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

响应格式：终端实时打印 kernel log

```
<3>[10723.297851] c0
<6>[10727.170501] c0 alarm set by [h
<4>[10727.170745] c0 _sprdchg_timer_
<12>[10727.171997] c0 healthd: batte
<6>[10727.172149] c0 sprdbat: sprdba
<6>[10727.172180] c0 sprdbat: chg_lo
<6>[10727.172332] c0 sprdbat: chg_lo
<4>[10727.411804] c0 sensor id:0, ra
<4>[10727.411865] c0 sensor id:0, ra
<6>[10727.527801] c0 sprdbat: sprdba
<6>[10727.527893] c0 sprdbat: sprdba
<6>[10727.527954] c0 sprdfgu: sprdfg
<6>[10727.527984] c0 sprdfgu: sprdfg
<6>[10727.527984] c0 sprdfgu: sprdfg
<6>[10727.528045] c0 sprdbat: fgu_ca
<6>[10727.528167] c0 sprdbat: bat_lo
<6>[10728.052398] c0 mdbg_proc->writ
<6>[10728.052429] c0 mdbg start wake
<3>[10728.052459] c0 [SDIOTRAN]set_m
<3>[10728.052459] c0
<3>[10728.055206] c0 [SDIOTRAN]marli
<3>[10728.055206] c0
<3>[10728.055236] c0 [SDIOTRAN]marli
<3>[10728.055236] c0
<3>[10728.055267] c0 [SDIOTRAN]marli
<3>[10728.055267] c0
<3>[10728.055267] c0 [SDIOTRAN]set_m
```

```
root@sp9830a_5h10_volte:/ # ylog_cli kernel
[01-01 11:02:11.969] <6>[10908.007965] c0 sprdb
[01-01 11:02:11.970] <6>[10908.007995] c0 sprdf
[01-01 11:02:11.970] <6>[10908.008026] c0 sprdf
[01-01 11:02:11.970] <6>[10908.008056] c0 sprdf
[01-01 11:02:11.970] <6>[10908.008087] c0 sprdb
[01-01 11:02:11.970] <6>[10908.008209] c0 sprdb
[01-01 11:02:11.970] <6>[10911.790252] c0 mdbg_
[01-01 11:02:12.069] <6>[10911.790283] c0 mdbg
[01-01 11:02:12.070] <3>[10911.790313] c0 [SDIO
[01-01 11:02:12.070] <3>[10911.790313] c0
[01-01 11:02:12.070] <3>[10911.793212] c0 [SDIO
[01-01 11:02:12.070] <3>[10911.793212] c0
[01-01 11:02:12.070] <3>[10911.793243] c0 [SDIO
[01-01 11:02:12.070] <3>[10911.793243] c0
[01-01 11:02:12.070] <3>[10911.793273] c0 [SDIO
[01-01 11:02:12.070] <3>[10911.793273] c0
[01-01 11:02:12.070] <3>[10911.793304] c0 [SDIO
[01-01 11:02:12.070] <3>[10911.793304] c0
[01-01 11:02:12.070] <3>[10911.793365] c0 [SDIO
[01-01 11:02:12.070] <3>[10911.793365] c0
[01-01 11:02:12.071] <6>[10911.893676] c0 irq_c
[01-01 11:02:12.292] <6>[10911.893676] c0 irq_c
[01-01 11:02:12.292] <6>[10912.098907] c0 [SPRD
[01-01 11:02:12.292] <6>[10912.098968] c0 [SPRD
[01-01 11:02:12.292] <6>[10912.098999] c0 [SPRD
```

5、设置 log 是否回写磁盘

命令格式：adb shell ylog_cli ylog xxx bypass 1/0

1：回写磁盘

0：不写入磁盘

响应格式：输出 log 的数据结构信息

```
root@sp9830a_5h10_volte:/ # ylog_cli ylog kernel cache bypass 0
--------------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.58G, running 00 day 01:20:54
--------------------------------------------------------------------------------
[ kernel ] = running {
    .loglevel = 3
    .file = /proc/kmsg
    .restart_period = 300
    .timestamp = 1
    .bypass = 1
    .mode = 194
    .ydst = 1.47M/1.47M {
        .file = /storage/BE60-0FE5/ylog/ylog/kernel/000
        .max_segment  = 6
        .max_segment_size  = 25.00M
        .cache= {
            .size = 512.00K
            .num = 2
            .bypass = 0   bypass值为：0 log不写入磁盘
            .timeout = 1000ms
            .debuglevel = 0x02
        }
    }
}
```

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

6、 设置 cache timeout 时间

命令格式：adb shell ylog_cli ylog xxx cache timeout 500

响应格式：输出 log 的数据结构信息

7、 设置历史 log 保留个数

命令格式：adb shell log_cli history_n N

响应格式：N\n

3.2.4 删除类命令行

1、只删除 last_ylog

命令格式：adb shell ylog_cli rylog

响应格式： done\n

2、 删除 ylog 和 last_ylog 文件夹

命令格式：adb shell ylog_cli ryloga

响应格式：done\n

3、删除 ylog 和 last_ylog 文件夹，并重启 ylog 进程

命令格式：adb shell ylog_cli rylogr

响应格式：done\n

3.2.5 其他命令行

1. 获取实时 kernel log

命令格式：adb shell ylog_cli kernel

响应格式：打印实时 kernel log

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/whale2/vendor/sprd/proprietories-source/ylog$ adb shell date
Sun Jan  1 08:46:04 CST 2012
SPREADTRUM\yanli.chen@yanlichenubtpc:~/whale2/vendor/sprd/proprietories-source/ylog$ adb shell ylog_cli kernel
[01-01 08:46:07.340] <4>[ 2746.664031] c0 sensor id:0, rawdata:0x31a, temp:31223
[01-01 08:46:07.340] <4>[ 2748.082366] c0 _sprdchg_timer_interrupt
[01-01 08:46:07.350] <6>[ 2748.082489] c0 sprdbat: sprdbat_charge_works-start
[01-01 08:46:07.351] <4>[ 2748.082519] c0 sprdchg_get_chg_cur rawdata * 50+300=450
[01-01 08:46:07.351] <6>[ 2748.082550] c0 sprdbat: enter sprdbat_auto_switch_cur avg_cur=89,chg_cur=450
[01-01 08:46:07.351] <6>[ 2748.082580] c0 sprdbat: chg_end_vol_l:0x105e
[01-01 08:46:07.351] <3>[ 2748.083496] c0 chg_current warning....isense:4169....vbat:4183
```

2、将 cache 中内容刷新到磁盘

命令格式：adb shell ylog_cli flush

响应格式：无

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

```
------------------------------------------------------------------------------
root = /storage/BE60-0FE5/ylog/ylog, quota = 6.58G, running 00 day 01:22:34
------------------------------------------------------------------------------
[ kernel ] = running {
    .loglevel = 3
    .file = /proc/kmsg
    .restart_period = 300
    .timestamp = 1
    .bypass = 1
    .mode = 194
    .ydst = 1.47M/1.47M {
        .file = /storage/BE60-0FE5/ylog/ylog/kernel/000
        .max_segment  = 6
        .max_segment_size  = 25.00M
        .cache= {
            .size = 512.00K
            .num = 2
            .bypass = 0
            .timeout = 200ms  cache timeout 时间为：200ms
            .debuglevel = 0x02
        }
    }
}
```

3、评测磁盘读写速率 benchmark 测试

a. 不加时间戳的 benchmark 测试：

命令格式：adb shell ylog_cli benchmark

相应格式：

```
root@sp9830a_5h10_volte:/storage/BE60-0FE5/ylog # ylog_cli benchmark
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 4.40M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 4.18M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 5.77M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 5.03M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 5.14M/s
```

b. 加时间戳的 benchmark 测试

命令格式：adb shell ylog_cli benchmarkt

相应格式：

```
130|root@sp9830a_5h10_volte:/storage/BE60-0FE5/ylog # ylog_cli benchmarkt
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 1.71M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 1.77M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 2.18M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 1.99M/s
cmd_benchmark -> /storage/BE60-0FE5/ylog/ylog/socket/open/000 speed 1.65M/s
```

4、通过 ylog_cli 命令行写 kernel log

命令格式：adb shell ylog_cli print2kernel log 内容 例如： adb shell ylog_cli print2kernel test

通过 adb shell cat /dev/ksmg |grep print2 可看到 log 成功写入/dev/kmsg 节点

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/6.0/device/sprd$ adb shell ylog_cli print2kernel test
SPREADTRUM\yanli.chen@yanlichenubtpc:~/6.0/device/sprd$ adb shell cat /dev/kmsg |grep print2
12,4549,312735198,-;print2kernel test
```

5、通过 ylog_cli 命令行写 android log

命令格式：adb shell ylog_cli print2android log 内容 例如： adb shell ylog_cli print2android test

通过 adb logcat |grep print2 可看到 log 成功写入

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/Downloads$ adb shell ylog_cli print2android xxxxxxxxx
SPREADTRUM\yanli.chen@yanlichenubtpc:~/Downloads$ adb logcat |grep print2
03-29 17:24:06.707   410   519 W YLOG    : [03-29 17:24:06.707] ylog<debug> command is: print2android xxxxxxxxx
03-29 17:24:06.707   410   519 W YLOG    : [03-29 17:24:06.707] ylog<warn> print2android xxxxxxxxx
```

3.2.6 统计 modem/wcn log 速率

ylog 可对 modem log、wcn log 进行速率统计，并将相关 log 存储在 cp 文件夹中。

```
cp_5mode   modem log -> running  -> cp/5mode/000 (1x10.00M/10.00M, 5.00%) -> cache.cp/5mode/(8x512.00K) [76.49M/76.49M]
cp_wcn     wcn log   -> running  -> cp/wcn/000 (1x10.00M/10.00M, 5.00%) -> cache.cp/wcn/(2x512.00K) [18.88M/18.88M]
```

ylog 从对应节点拿到 modem log 后，缓存在 8*512*1024 大小的 cache 中，待 timeout 时间或 cache 填满后，将 log 写入磁盘。所以理论上，在 modem log 速率不超过 4M/s 的情况下，ylog 存储的 modem log 不会出现 log 丢失问题。

1. modem log 速率统计

可通过 adb shell ylog_cli speed 对各类 log 速率进行统计，其中 modem log 速率如下：

```
[ylog] cp_5mode  modem log  -> 20.44% 36.70M  log total      log speed top 5
01. [04-01 11:04:32.379] ~ [04-01 11:04:33.380] 00 day 17:19:38 ago 1024.00K/s
02. [04-01 11:04:34.381] ~ [04-01 11:04:35.381] 00 day 17:19:40 ago 1024.00K/s
03. [04-01 11:04:35.381] ~ [04-01 11:04:36.382] 00 day 17:19:41 ago 1024.00K/s
04. [04-01 11:04:37.383] ~ [04-01 11:04:38.383] 00 day 17:19:43 ago 1024.00K/s
05. [04-01 11:04:39.385] ~ [04-01 11:04:40.385] 00 day 17:19:45 ago 1024.00K/s
```

2. wcn log 速率统计

可通过 adb shell ylog_cli speed 对各类 log 速率进行统计，其中 wcn log 速率如下：

```
[ylog] cp_wcn  wcn log      ->  3.20% 838.00K  log total      log  speed top 5
01. [04-01 11:52:39.726] ~ [04-01 11:52:40.735] 00 day 00:02:16 ago 17.82K/s
02. [01-01 08:05:49.509] ~ [01-01 08:05:50.509] 00 day 00:01:55 ago 17.00K/s
03. [04-01 11:52:57.743] ~ [04-01 11:52:58.743] 00 day 00:02:34 ago 16.00K/s
04. [04-01 11:55:57.838] ~ [04-01 11:55:58.838] 00 day 00:05:35 ago 16.00K/s
05. [01-01 08:06:08.533] ~ [01-01 08:06:09.533] 00 day 00:02:14 ago 15.00K/s
```

3. ylog 可发送 at 命令

ylog_cli 命令行可发送裸 at 命令

命令格式：adb shell ylog_cli at at 命令 例如： adb shell ylog_cli at at+armlog=1

响应格式：

a. 若是 engpc 通道打开：

Try to stop engpc:

getprop | grep init.svc.engpc | cut -d '.' -f 3 | cut -d ']' -f 0

or

stop engpcclientt; stop engpcclientlte; stop engpcclientw; stop engpcclienttl; stop engpcclientlf pcclientlte; stop engpcclientw; stop engpcclienttl; stop engpcclientlf

可通过 adb shell getprop | grep init.svc.engpc | cut -d '.' -f 3 | cut -d ']' -f 0 或

adb shell stop engpcclientt; stop engpcclientlte; stop engpcclientw; stop engpcclienttl; stop engpcclientlf pcclientlte; stop engpcclientw; stop engpcclienttl; stop engpcclientlf

命令关闭 engpc 通道

b. 若是 engpc 通道关闭：

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/Downloads$ adb shell ylog_cli print2android xxxxxxxxx
SPREADTRUM\yanli.chen@yanlichenubtpc:~/Downloads$ adb logcat |grep print2
03-29 17:24:06.707   410   519 W YLOG    : [03-29 17:24:06.707] ylog<debug> command is: print2android xxxxxxxxx
03-29 17:24:06.707   410   519 W YLOG    : [03-29 17:24:06.707] ylog<warn> print2android xxxxxxxxx
```

返回：at 命令的返回值

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

```
shell@sp7731g_1h10:/ $ ylog_cli at at
Try to stop engpc:                                    engpc通道打开状态，可通过命令行关闭
getprop | grep init.svc.engpc | cut -d '.' -f 3 | cut -d ']' -f 0
or
stop engpcclientt; stop engpcclientlte; stop engpcclientw; stop engpcclienttl; stop engpcclientlf
pcclientlte; stop engpcclientw; stop engpcclienttl; stop engpcclientlf        <
shell@sp7731g_1h10:/ $ ylog_cli at at+armlog=1

OK                                                    关闭engpc，at命令发送成功，返回命令执行结果
```

4. ylog 后期 log 分析方法和技巧

4.1 ylog 目录结构

不插 t 卡时，ylog 存储在 data 分区中，默认 quota 值为 200M，data 分区只保留本次 log，不保留历史 log。当插上 t 卡挂载成功后，会计算 t 卡的可用空间，将可用空间的 90%作为 ylog 的 quota 值，用来动态分配给各个 ydst。同时将 data 分区下的 log move 到 t 卡中，以追加方式存储后续 log。当磁盘空间不足时，ylog 会尝试缩小自身，尽量释放更多空间存储后续 log，或为自己设置新的磁盘配额空间,动态调整自己,以新的配额大小规划 ydst 段数或段大小。

插有 t 卡时，在 t 卡挂载状态不出现异常和不重启 ylog 总开关的情况下，ylog 会将上次手机运行周期内的 log 存储到 last_ylog 文件夹中，并重命名为 ylog1，同时将上上次手机运行周期内的 log 重命名为 ylog2，依次类推，默认最多保留 5 次历史 log，可通过 adb shell ylog_cli history_n N 命令将历史 log 个数设置为 N 次。t 卡中 ylog 存储的 log 目录结构为：

```
├── last_ylog    历史log文件夹
└── ylog
    ├── android      android log
    │   ├── 000
    │   ├── analyzer.py
    │   └── outline
    ├── hcidump      hcidump log
    │   ├── 000
    │   └── analyzer.py
    ├── info     系统静态信息
    ├── kernel       kernel log
    │   ├── 000
    │   ├── analyzer.py
    │   └── outline
    ├── sys_info     定期抓取系统相关信息
    │   ├── 000
    │   ├── analyzer.py
    │   └── outline
    ├── tcpdump      ap cap log
    │   ├── 000
    │   ├── analyzer.py
    │   └── outline
    ├── tracer     /d/tracing/trace_pipe节点信息
    │   ├── 000
    │   ├── analyzer.py
    │   └── outline
    ├── traces       tombstones traces log
    │   ├── 000
    │   ├── analyzer.py
    │   └── outline
    ├── ylog_debug     ylog 监控信息
    └── ylog_journal_file
```

其中 000 为当前 log 存储文件，当 000 大小达到 log 单个文件大小上限值时，会翻转为 001，并新建 000 用来继续存储 log，数字越小，表示 log 越新。当 log 文件达到翻转上限时，会根据 ydst 的属性，判断是停止存储 log 以保留原始 log，还是进行将最老的 log 删除来释放空间

analyzer.py 脚本为 log 离线解析文件，支持 windows/MAC/linux 等多个平台

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

outline 文件记录每段 log 的起止时间和填满该段 log 所用时间。在分析问题时，可根据问题发生时间点直接定位对应段 log，用 vim 打开 outline 文件，可以快速打开发生问题时间区间内的文件，详细步骤如下：
vim outline

1. 光标定位到 002
2. 然后输入 gf
3. 就可以直接打开对应 002 文件

```
002 - 2012.01.01 08:00:06 ~ 2012.01.01 14:47:00 [00 06:46:54]
001 - 2012.01.01 14:47:00 ~ 2012.01.01 14:48:31 [00 00:01:31]
000 - 2012.01.01 14:48:31 ~
```

Log 内容中包含的信息：
其中 0 表示该文件为第 000 文件，54 表示最多可以产生 54 段
50.00M 表示每段文件最多存储 50M 大小数据

```
A0[ylog_segment=0/54,50.00M] 2016.02.18 14:58:27 -00d00:00:01/1551ms 0.00B/2.64G 0.00B/s
A002-18 14:40:19.312  2038  2303 E SimContactProxy: iccAasUri:content://icc/aas/subId/1
A202-18 14:39:50.800   262   888 D TelephonyManager: /proc/cmdline=loglevel=1 console=tty
d_base=9fe2e000  mem_cs=1, mem_cs0_sz=20000000  sysdump_magic=85500000   androidboot.seri
A002-18 14:40:19.316  2038  2303 E SimContactProxy: iccSneUri:content://icc/sne/subId/1
A202-18 14:39:54.037   231  1248 D use-Rlog/RLOG-RILC_ATCI: > AT Command 'AT+VGR=6'. phon
A002-18 14:40:19.316  2038  2303 E SimContactProxy: iccSdnUri:content://icc/sdn/subId/1
A102-18 14:39:43.475   184   184 I vold    : Vold 3.0 (the awakening) firing up
A202-18 14:39:54.039   305   396 I chatty  : uid=1001(radio) /system/bin/rild_sp expire 3
A002-18 14:40:19.362  2815  2815 W System  : ClassLoader referenced unknown path: /system
A002-18 14:40:19.400  2038  2134 D ContactDirectoryManager: Found com.android.exchange.di
```

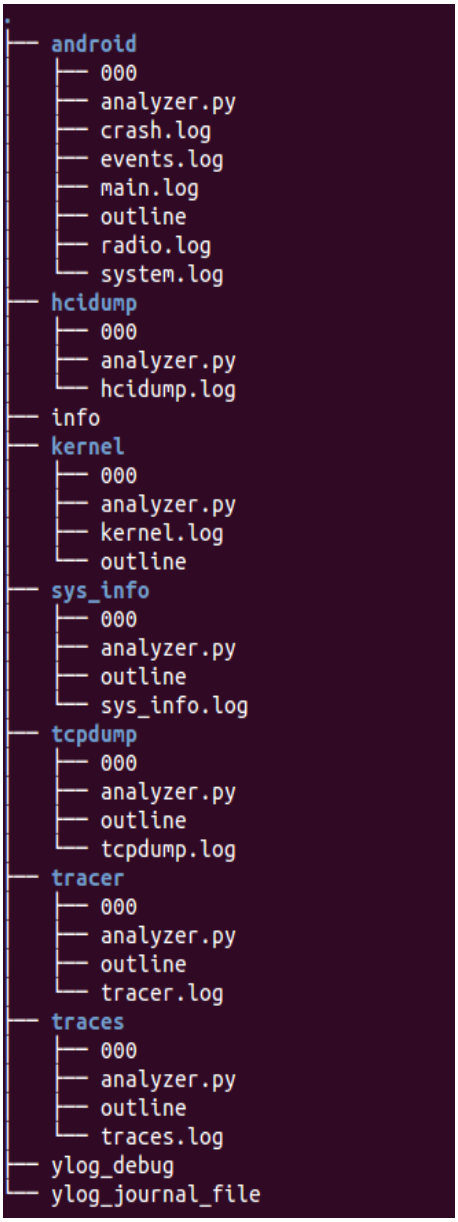
4.2 ylog 文件离线解析

analyzer.py 中包含 token 映射信息
'A0':'main.log',
'A1':'system.log',
'A2':'radio.log',
'A3':'events.log',
'A4':'crash.log',
将 ylog pull 到本地，在对应文件夹目录中执行 python analyzer.py，就可以拿到解析后的 log，目前解析支持将 log 合并和拆分，可根据自身需求进行定制解析。另外，离线解析还支持指定段解析，例如：执行 python analyzer.py 000 001，就可以单独解析 000 001 这两段 log。

```
SPREADTRUM\yanli.chen@yanlichenubtpc:~/tmp/ylog/android/test$ python analyzer.py 000 001
SPREADTRUM\yanli.chen@yanlichenubtpc:~/tmp/ylog/android/test$ ll
total 7424
drwxr-xr-x 2 SPREADTRUM\yanli.chen SPREADTRUM\domain^users    4096 Mar  5 19:23 ./
drwxr-xr-x 3 SPREADTRUM\yanli.chen SPREADTRUM\domain^users    4096 Mar  5 19:23 ../
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users  352737 Mar  5 19:23 000
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users 1048691 Mar  5 19:23 001
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users 1048623 Mar  5 19:23 002
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users 3735193 Mar  5 19:23 003
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users    1993 Mar  5 19:23 analyzer.py
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users       0 Mar  5 19:24 crash.log
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users   18474 Mar  5 19:24 events.log
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users  901479 Mar  5 19:24 main.log
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users     214 Mar  5 19:23 outline
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users  351560 Mar  5 19:24 radio.log
-rw-r--r-- 1 SPREADTRUM\yanli.chen SPREADTRUM\domain^users  107691 Mar  5 19:24 system.log
```

解析后的 log 目录为：

Copyright 2016 Spreadtrum Communications Inc.



4.3 native crash 和 anr log 分析方法

1. native crash 分析方法

a. 进入/ylog/ylog/traces 目录，执行： python analyzer.py,
vim traces.log，搜索 ylog_tombstones，
例如：
ylog_tombstones 001 [cat /data/tombstones/tombstone_00] [01-02 02:14:16.785]
时间戳[01-02 02:14:16.785]即是 native crash 时间点

b. 进入 android 目录,vim outline，找到以上发生 native crash 时间点所在段
例如：01-02 02:14:16.785 该时间点在以下时间段内，对应 log 段数为：015
015 - 2012.01.02 02:12:36 ~ 2012.01.02 02:40:37 [00 00:28:01]

c. 解析出该 log 段包含的 main,system,events,radio,crash 等 log
执行： python analyzer.py 015
回车即生成：crash.log events.log main.log radio.log system.log

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.

d. 打开对应 xxx.log，即可进行问题分析

2. anr 分析方法

a. 进入/ylog/ylog/traces 目录，执行： python analyzer.py,
vim traces.log，搜索 ylog_traces，
例如：
ylog_traces 001 [cat /data/anr/traces.txt] [01-02 04:07:43.903]
时间戳[01-02 04:07:43.903]即是 anr 时间点

b. 进入 android 目录,vim outline，找到以上发生 anr 时间点所在段
例如：01-02 04:07:43.903 该时间点在以下时间段内，对应 log 段数为：011
011 - 2012.01.02 04:04:04 ~ 2012.01.02 04:29:18 [00 00:25:14]

c. 解析出该 log 段包含的 main,system,events,radio,crash 等 log
执行： python analyzer.py 011
回车即生成：crash.log events.log main.log radio.log system.log

d. 打开对应 xxx.log，即可进行问题分析

3.系统状态相关 log 分析(每 2 分钟收集一次系统相关 log 信息)

方法一：
进入 ylog/ylog/sys_info 目录，执行：python analyzer.py，
回车即可生成：sys_info.log（整个测试过程收集到的全部系统 log）

方法二：
a. 找到问题发生时间点
b. 进入 ylog/ylog/sys_info 目录，vim outline，找到以上发生问题时间点所在段
c. 打开对应 log 段，分析问题发生时间点前后的系统状态

Copyright 2016 Spreadtrum Communications Inc. Confidential and Proprietary.