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| What | Version | Date | Comments | Prepared by |
| Jio STB Android STB Crash Analysis Work Flow | 1.0 | 24-Mar-2020 | None | Sarma Hari |
| Jio STB Android STB Crash Analysis Work Flow | 1.1 | 31-Mar-2020 | None | Sarma Hari |
| Jio STB Android STB Crash Analysis Work Flow | 1.2 | 01-Apr-2020 | Block Diagram Added | Sarma Hari |

Purpose: Analyze STB log data and prepare Crash Details

Input: Text files given by Jio

Output: An Index in ElasticSearch (ES) and/or an CSV file

## Input File Format Structure

Each STB data comes in one single file and file name would be that of STBID. This file needs to be unzipped and untarred to bring to the following structure.

1. .txt files in the directory data\data\insight.tr069.client\cache\sdcard\log
2. Main.log, system.log files in the directory data\data\insight.tr069.client\cache\
3. Any other file(s) will be ignored

### Format of Input files

Input file will have 5 columns namely, STBID (stbid is the name of main file itself), Time, Tid, Pid, Priority, Tag and Message(note: Time will not have year, Program appends current year)

## Processing

Output Format Columns:

STBID, Process, Pid, Flags, Package, Foreground, BuildVer , CrashTrace , Crashat

1. STBID is the name of the file itself
2. Sequentially go thro’ the log files (as mentioned in Input File Format Structure) and extract each of the five columns (viz., stbid, time, Tid, Pid, Priority, Tag). Write to a CSV. This CSV is nothing but events as happened. No filtering, Just a sequential flow of files – Can be discarded after system stabilized
3. If Tag=” AndroidRuntime'” and Priority ='E’ Process from first occurrence till last occurrence (that is either priority is NOT “E” or Tag Not Equal to “AndroidRuntime” or both)
   1. From First record, gather Time of Crash
   2. From Second Record get Process & Pid
   3. From third record to last record is crash stack (separated by Comma or “\n”)
   4. At present, Jio & Claysol Did not arrive at how to arrive at BuildVer, Package, Foreground & Flags
   5. At the end of the last record processing, write data (one row) to CSV and/or ES

Hence generated CSV/ES is the source for Visualization and/or Analytics

## DataFlow Diagram

**Input Data**

STB Data Coming from Jio in a compressed format

Eg: RBLSBGF10000601.\*

***Point No. 1: Confirm***

**Convert Log files into Columns**

Extract, Time, Tid, Pid, Priority, Tag, Message from those files

Note: Current Year is added to Time, STBID is filename itself (in this case ))RBLSBGF10000601)

data to CSV/ES

**Extract files from Subdirs**

1. txt files in the directory data\data\insight.tr069.client\cache\sdcard\log
2. Main.log, system.log files in the directory data\data\insight.tr069.client\cache\
3. ***Any other file(s) will be ignored***

***Point#3: To confirm***

***Point#2: To Confirm***

Yet to Define a process to get BuildVer, Flags, Package, Foreground

Insert crash details into CSV/ES, which would act as starting point for Analytics or Visualization

**Get Crash Details**

If Tag=”AndroidRuntime” and Priority=”E”, This is the beginning of the crash (set of continuous log entries)

Get Crash time from 1st log then Get Process & PID from From 2nd log entry

Subsequent Log Entries are crash trace Separated by “\n” character