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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 |
| Jio STB Android STB Crash Analysis Work Flow | 1.3 | 20-Apr-2020 | Documented Changes based on meeting of 6-Apr-2020 with Suresh. Block Diagram removed as it is complicating the document | 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. System\_app\_crash\* and data\_app\_crash\* files only of data\data\insight.tr069.client\cache\data\system\dropbox folder
3. Any other file(s) will be ignored

### Format of Input files

### Files of sdcardlog\log foler

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)

### Files of dorpbox folder

These files contain Package/Subject, PID, Flags, Process, Foreground, Build and Crash Stack. Note that, all files may NOT contain all listed value. Some may not be available.

## Processing

Output Format Columns:

STBID,processing\_date,CrashAt,Pid,Process,Flag,Package,Foreground,Build,CrashTrace (processing\_date is the date on which log files are processed by this program)

## Processing Flow

### Processing of SDCard folder files

**\*Note**: Reviewing/understanding which log entries are considered for arriving at crash details is important here. Out of 100s of combinations of Tags & Messages only a Couple of them are used for arriving at crash details

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/summarizing/aggregating of any kind, Just a sequential flow of files – Can be discarded if not required to retain
3. If Tag=” AndroidRuntime'” and Priority ='E’ and Message has string “FATAL EXCEPTION” 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 (even though BuildVer is being arrived as stop-gap as documented in point#4 below)
   5. At the end of the last record processing, write data (one row) to CSV and/or ES
4. SDCARD folder for that device (STB) is searched for “I TR069NativeService: Current version of STB:” and tails part is used for arriving at BUILD

### Processing of Dropbox Folder Files

This is relatively simple. Please refer “Format of Input Files” section and “Files of dorpbox folder” subsection above

### Points to Note

1. Files from SDCARD folders do NOT contain FLAG, PAKCAGE & FOREGROUND column values, which are defaulted to “NA” in output
2. Files from DRPBOX folder do NOT contain CRASH\_TIME values, which will be default value of ES in or NA is intermediate CSV file is viewed

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