**READ ME file(file name,usage,functionality)**

Steps to follow for analysis of BGP data are as follows:

1. Download Files from Oregon’s website : <ftp://archive.routeviews.org/route-views.saopaulo/bgpdata/2011.10/RIBS/>
2. Convert the Ribs files downloaded into Ascii Format following the steps:
3. Download zebra-dump-parser.tgz from http://www.linux.if/~md/software/zebra-dump-parser.tgz
4. Un-compress Both the above files using following two commands

tar -xzvf zebra-dump-parser.tgz

bzip2 -d rib.20111001.0000.bz2

1. Now in zebra-dump-parser.pl file change $format = 3 to $format = 1 to obtain the data in correct format.
2. cat rib.20111001.0000 | time ./zebra-dump-parser.pl > ribascii
3. Now ribascii is your ascii file on which you need to perform the data analysis.
4. For further details look into screenshots in Report.
5. Reduce the “ascii” File Contents by running following shell script in Linux.

echo "enter file "

read fname

echo "Extracting Out Prefixes and AS\_Path"

sed '/TIME:/ d' $1 > ripTime.dat

sed '/TYPE:/ d' ripTime.dat > ripTimeType.dat

sed '/FROM:/ d' ripTimeType.dat > ripTimeTypeFrom.dat

sed '/AGGREGATOR:/ d' ripTimeTypeFrom.dat > ripTimeTypeFrom1.dat

sed '/ORIGIN:/ d' ripTimeTypeFrom1.dat > ripTimeTypeFrom11.dat

sed '/ATOMIC\_AGGREGATE/ d' ripTimeTypeFrom11.dat > ripTimeTypeFrom2.dat

sed '/NEXT\_HOP:/ d' ripTimeTypeFrom2.dat > ripTimeTypeFromNexthop.dat

sed '/MULTI\_EXIT\_DISC:/ d' ripTimeTypeFromNexthop.dat > ripTimeTypeFrmNxthpMult.dat

sed '/ORIGINATED:/ d' ripTimeTypeFrmNxthpMult.dat > ripTimeTypeFrmNxthpMultOrg.dat

sed '/COMMUNITIES:/ d' ripTimeTypeFrmNxthpMultOrg.dat > ripTimeTypeFrmNxthpMultOrgCom.dat

sed '/SEQUENCE:/ d' ripTimeTypeFrmNxthpMultOrgCom.dat > ripTimeTypeFrmNxthpMultOrgComSq.dat

sed '/-/ d' ripTimeTypeFrmNxthpMultOrgComSq.dat > ripTimeTypeFrmNxthpMultOrgComSqDs.dat

sed '/^$/ d' ripTimeTypeFrmNxthpMultOrgComSqDs.dat > ripTimeTypeFrmNxthpMultOrgComSqDsSpc.dat

sed '/PEER/ d' ripTimeTypeFrmNxthpMultOrgComSqDsSpc.dat > finalrip.dat

sed '/^$/ d' finalrip.dat > $2

ls

This script is included in file “scriptChopfile” included in the submission of “Programs and ReadME” folder.

1. Each File has its Question number at its end which indicates the question for which the script provides a solution.
2. For proper analysis, Obtain the optimized BGP ascii file from above 3 steps.
3. Chop the files into 4920000 lines by using ,$head option in Linux, for optimized performance of the scripts.
4. Name each block as ("ribfinal4920000I.dat","ribfinal4920000II.dat","ribfinal4920000III.dat","ribfinal4920000IV.dat",,"ribfinal4920000V.dat",,"ribfinal4920000VI.dat") for input for all the scripts.
5. Place all scripts in the same folder as the one containing the chopped files and run the simultaneous scripts.
6. File names , Usage and functionalities:

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| --- | --- | --- |
| File names | Usage | Functionalities |
| readOutputRib\_V1\_Q1\_Q2\_Q4\_Q5 | File for analysis of BGP data for answering Q1,2,4 and 5 respectively | Analysis of BGP data for total prefixes, distinct AS numbers and maps Connectivity of different AS to Frequency in BGP data. |
| readOutputRib\_V2\_Q3 | File for analysis of BGP data for answering Q3 | Analyzes the data and provides one-one AS-AS connections list |
| readOutputRib\_V2\_Q6\_Q7 | File for analysis of BGP data for answering Q6 and Q7 | Maps Prefixes with their homes.  Provides result for multi-home and single-home |
| scriptChopfile | For optimization of BGP input file | Removes unnecessary data and redundancy by eliminating data from files. |