1. TCH Drop: Reason & Solution

- Drop during conversation is known as TCH drop. It takes place after connect ACK msg on TCH.TCH drop occurring.
- For TCH drop first cross check the BCCH of that cell, hardware issue may be, change RXP and RLT value. Find out there is any interference ,neighbor defined.

Reasons for TCH Drop:

- Wrong Parameter Planning.
- BAD HOSR.
- Hardware Fault.
- High TR Fail.
- Overshoot.
- Outage.
- Due to Low Coverage.
- Due to ICM Band(CDMA)

Solutions for removal of TCH Drop:

Check Parameter:

- Check the BCCH Plan (C/I or C/A), Co-BSIC & Co BCCH.
- Check the Timer T 100(should be 20 ms)

Check Overshooting:

- If a cell is picking call from long distance, Check the sample log according to TA..
- Site Orientation.
- Effective tilt should be check.
- Mount position should be check

Improve HOSR:

- Check the Hopping plan.
- Check the Neighbor Plan

High TR Fail:

- Check and clear TR fail from oss end.

Check HW:

- Check Alarms on site.
- Check TRXs,Check Slips.
- Check the Hopping plan.
- Check BB2F card., Check VSWR,
- Path imbalance,Connector, Connection,Check TMA

Some Other Reason ,..

Bad Coverage:

- If the drop call is due to low signal strength uplink, check the receive path of this particular TRX. Check receiver sensitivity, VSWR, feeder connection and etc. Drops due to Low Signal Strength.
- If the drop call reason is due to low signal strength downlink, then, check the transmit path. Check cards, feeder and etc.
- Use MapInfo or Google Earth to find location of sites.
- Effective tilt should be check.
- Mount position should be check.

Drop Reason because of HW Issues:

- if drops are only on one site, then go for a check for that particular even attach with that site.
- If drops are on all sites connected to a single link, then check the slip or interference on that Abis interface.
- If Drops are distributed on all site of the BSC, then check the slips on A-ter.
- Down Time of the cell.
- TRX condition.
- BTS should not getting the temperature alarm continuously.
- Reports for TCH Drop:
- 163 for TCH Drop
- ZEOL for alarms.
- ZAHP for Flicks.
- 232 for TA report.
- 208 Path Imbalance report.
- 204 for BTS report.
- 216 for all parameter.
- 196 for UL-DL Qul.
- 62 for Adj cell having same or adj

2. SD Drop : Reason & Solution

I Work on Ericsson So Find For Ericsson SD Drop Reason & Solution.

when we assigned SD for call origination and at that time due to some problem or any mismatch comes by which SD loss occurs, it is called as SD Drop.

It occurs between allocation of SD and before TCH allocation. **Sometimes SD drop occurs because queuing is not activated in the system.**

If SD drop is high plz look on parameters like- overshooting , shift the SD time slot , may be hardware issue, interference, change the values of RXP, PMAX, may be issue of uplink or downlink issue in that cells for UL put a TMA in that cell and for DL provide tilt ,re orient that antenna

If SD drop is high plz look on parameters like-

- Overshooting
- Shift the SD time slot
- Hardware issue-Check Alarms.,TRX condition.,Check Path Imbalance.,VSWR of the Cell.,Connector Connection.
- Some times you will find issues on BCCH TRX.In this case BCCH shift from one to other TRX will reduce SD drop.
- **Interference:** Check the BCCH Plan (C/I or C/A). Co-BSIC & Co BCCH. Change the values of RXP PMAX
- It may be uplink or downlink issue in which cells for UL put a TMA in that cell and for DL provide tilt
- Re orient that antenna.
- Use latest ND 111 and MapInfo to find out proper frequency to reduce interference

- High LAPD Utilization:Check LAPD util report from OSS, and define 32 kbps signaling instead of 16kbps

Check for parameter:

Check the Timer T 3101, Timer T 200(20ms),T11 Expired(10 s),MAIO check.

Useful Reports for SD Drop:

- Use report ZEOL to find the alarms.
- Use 208 for Path loss analysis.
- Use 196 for UL-DL Interference.
- Use 166 report for SD drop.
- Use report 216 for detail SD Drop.
- 232 report for TA report.
- 62 for Adj cell having same or adj freq.
- ND 111 for freq plan.
- 204 for BTS and cell report.

3. HOSR : Reason & Solution

Hand over success rate:

If HOSR will be good TCH drop will also be good.

If Handover success rate degrades call drop rate will take place.

Reasons for HOSR:

- Improper Neighbor planning.
- CO-BCCH-BSIC issues in Neigh.
- Parameter Check.
- HSN clash.
- SL value.
- LAC boundary.
- DAC value mismatch.
- Syn mismatch.
- Overshoot.
- HW Issues.
- Low Coverage

Neighbor Tuning:

- Try to retune neighbors
- Avoid CO-BCCH-BSIC neighbors.
- Avoid extra neighs.
- Delete long distance neighs.
- Check neighs are defined form both ends.
- If there are high fail delete and recreate neighs

Parameter Check:

- Retune SL.It can change bw -90,-95,-105.
- Check HSN.
- Check SYN.
- Retune LDR, LUR, IDR, IUR.
- Retune LMRG, QMRG, PMRG.

DAC value Check:

- Check DAC value. If DAC value is high or low tune it at the TH value. It should be 2050

Other Reason :

Overshoot:

- When neighs are far away then chances of HO fail increases. In this case ping-pong HI takes place by which fail takes place. So it the inter distance is high its batter to del that kind of neigh.

LAC Boundary-

- Check LAC boundry.
- High fail takes place there will be Inter BSC cells.
- High fail takes place there will be Inter MSC cells.
- Define proper LAC in neigh cells.

HW Issues:

- Clear HW issues.
- Check TRXs.
- Check outages.
- Check BOIA Card. Because if it is faulty incoming and outgoing HO will be fail.

Clear Reports:

- Clear ZEAT.
- Clear 60.
- Clear 67.
- Clear 61.

Reports for HOSR :

- 153 reports for HO fail bw two cells.
- 154 HO analyses.
- 60 for discrepancy.
- 67 for Sync report.
- 61 for one way neigh.
- ZEAT for CO-BCCH-BSIC neighs
- 74 for HO definition report.
- ZELO for inter MSC HO report.
- 150 for high HO fail.
- 157 for high HO attempt and call ratio.
- 158 for intra BSS HO observation.
- 62 for Adj cell having same or adj freq.