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1. Background

The Authority collects the monthly system generated Mobile Operating Support System (OSS) report from the Telecom Operators and does reviews on the average Mobile Quality of Service (QoS). Based on the system generated Mobile OSS reports, the Authority decides the locations of physical verification or a drive test and carries out the Mobile QoS drive test to monitor and report the QoS regularly. The Mobile OSS report contains the mobile QoS for both voice and data services which are based on and measured through the various parameters of key performance indicators (KPI) of Mobile services of the 20 dzongkhags.

These OSS reports contain both operator's averaged Operation Support system (OSS) reports for the month of November 2023.

2. Findings

The results and findings of OSS system generated reports submitted by both the telecom operators are mentioned below:

(i) B-Mobile OSS

BTL monthly OSS report for November, 2023									
Sl. No	Region	CS drop rate (%)	PS drop rate(%)		CS success rate (%)	PS success rate (%)		DL user throughput(Mbps)	
		3G	3G	4G	3G	3G	4G	3G	4G
1	Thimphu	0.16	0.47	0.56	99.82	98.18	99.87	2.19	12.68
2	Paro	0.14	0.44	0.46	99.51	97.56	99.89	2.56	14.87
3	Haa	0.09	0.83	0.60	99.84	98.66	99.84	2.70	22.49
4	Wangdi	0.07	0.64	0.85	99.88	98.70	99.84	2.67	13.87
5	Gasa	0.09	0.86	1.70	99.93	98.72	99.94	2.84	28.23
6	Punakha	0.07	0.44	0.59	99.78	97.90	99.78	2.06	16.04
7	Chukha	0.11	0.61	0.93	99.85	98.09	99.74	2.89	16.15
8	Samtse	0.15	0.73	1.33	99.85	98.31	99.79	2.27	17.63
9	Sarpang	0.17	0.86	1.00	99.77	97.15	99.86	2.01	18.19
10	Dagana	sunset	sunset	0.72	sunset	sunset	99.91	sunset	15.05
11	Zhemgang	0.10	0.87	0.63	99.89	96.74	99.90	1.82	22.85
12	Tsirang	sunset	sunset	0.62	sunset	sunset	99.92	sunset	14.00
13	Trongsa	0.44	0.99	0.53	99.83	97.19	99.80	2.09	23.84

14	Bumthang	0.41	0.84	0.45	99.80	98.37	99.46	2.29	15.45
15	S/Jongkhar	0.35	1.08	1.22	99.73	97.23	99.81	2.56	19.15
16	Pgytsel	0.15	0.62	0.96	99.86	98.47	99.82	2.33	23.18
17	Trashigang	0.61	1.21	0.59	99.56	97.81	99.90	2.33	13.89
18	T/yangtse	0.14	0.44	0.49	99.89	98.80	99.77	3.20	23.63
19	Mongar	0.11	0.74	0.81	99.89	96.58	99.84	2.11	18.67
20	Lhuntse	0.10	0.47	0.61	99.88	98.12	99.91	2.24	17.51

(ii) Tashi Cell OSS

TICL monthly OSS report for November, 2023									
Sl. No.	Region	CS drop rate (%)	PS drop rate (%)		CS RAB success rate (%)	PS RAB success rate(%)		DL user throughput (Mbps)	
		3G	3G	4G	3G	3G	4G	3G	4G
1	Bumthang	0.21	0.22	0.36	99.50	99.53	99.86	2.78	17.18
2	Chukha	0.25	0.36	0.37	99.88	99.56	99.72	2.08	16.56
3	Dagana	0.18	0.45	0.44	99.59	99.50	99.77	2.63	18.38
4	Gasa	0.49	1.39	0.44	99.96	99.72	98.81	1.13	18.92
5	Haa	0.08	0.25	0.27	99.86	99.76	99.87	2.73	17.95
6	Lhuntse	0.20	0.45	0.29	99.73	99.34	99.73	2.23	17.02
7	Mongar	0.20	0.45	0.35	99.76	99.49	99.24	2.18	12.34
8	Paro	0.20	0.23	0.21	99.94	99.77	99.67	2.31	13.73
9	Pemagatshel	0.18	0.30	0.19	99.93	99.76	99.79	2.29	12.96
10	Punakha	0.13	0.23	0.38	99.92	99.73	99.85	2.38	14.76
11	Samtse	0.25	0.30	0.49	99.96	99.73	99.76	1.92	16.04
12	Sarpang	0.10	0.25	0.19	99.90	99.48	99.79	2.06	15.45
13	S/jongkhar	0.16	0.50	0.64	99.89	99.55	99.67	2.36	15.17
14	Thimphu	0.09	0.25	0.39	99.92	99.74	99.80	2.68	14.29
15	Trashigang	0.30	0.52	0.42	99.62	99.24	99.26	2.32	15.76
16	Trongsa	0.08	0.24	0.16	99.92	99.70	99.56	2.39	16.34
18	Trashi yangtse	0.29	0.42	0.18	99.96	99.71	99.71	2.84	16.07
17	Tsirang	0.20	0.32	0.31	99.78	99.54	99.66	1.76	10.11
19	Wangdi	0.27	0.55	0.27	99.49	99.24	99.72	2.40	19.31
20	Zhemgang	0.14	0.59	0.30	99.84	99.59	99.27	2.46	16.86

3. Analysis

- a. For both TICL and BTL, all the parameters for all Dzongkhags are within the set benchmark except for BTL's download throughput for 3G at Paro and Samtse.
- b. The QoS issues of 3G, are mostly taken care of by the presence of 4G services, provided that the 3G sites are co-located with the 4G sites.
- c. However, there has been recent reports of QoS issues especially in terms of Call in multiple Dzongkhags which the authority is following up with.