



## **Telecom Regulatory Authority of India**

The Indian Telecom Services  
Performance Indicators April – June 2007

**5<sup>th</sup> October 2007**

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## INTRODUCTION

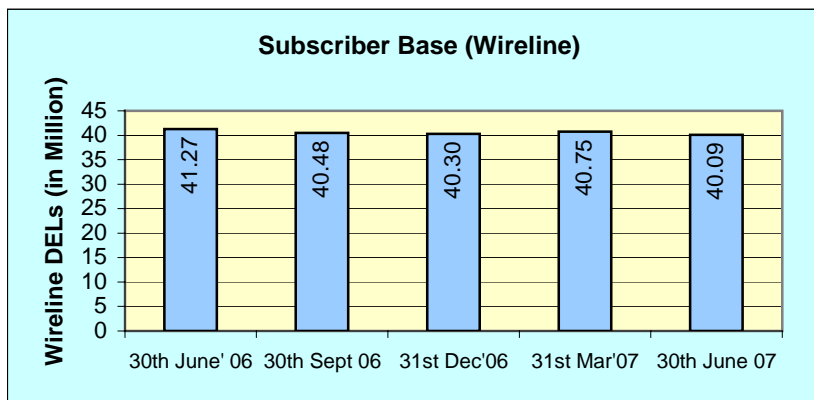
- 1.1 This report provides an update on the growth trends for the telecom services in the country for the period **April – June 2007**. This is an update over the previous reports and presents a broad perspective on the Telecom Services to serve as a reference document for various stakeholders, research agencies and analysts. Under the Unified Access Service Regime, the details under wireless services combine both GSM & CDMA. The wireless subscriber base includes GSM, CDMA, WLL(F) and WLL(M). QOS performances of various service providers have been included in Chapter Five. This report includes the performance of Cable TV, DTH & Radio Broadcast services in Chapter Six and Financial details of telecom service sector in Chapter Seven. The Executive Summary of various Telecom Services has been given in the beginning followed by ‘Quarterly results at a Glance’ showing the growth pattern of Wireline, Wireless, Internet and Broadband services.
- 1.2 The report has been compiled on the basis of information from various telecom service providers. TRAI collects performance-based data from various service providers on a quarterly basis to monitor the growth trend in the sector.
- 1.3 This quarterly report is also available on the TRAI website ([www.trai.gov.in](http://www.trai.gov.in)). Any suggestions pertaining to this may please be addressed to S. K. Gupta, Advisor (CN), TRAI; Tel. +91-11-23217914, Fax. +91-11-23211998 and e-mail: [skgupta@trai.gov.in](mailto:skgupta@trai.gov.in) or [guptask61@gmail.com](mailto:guptask61@gmail.com)

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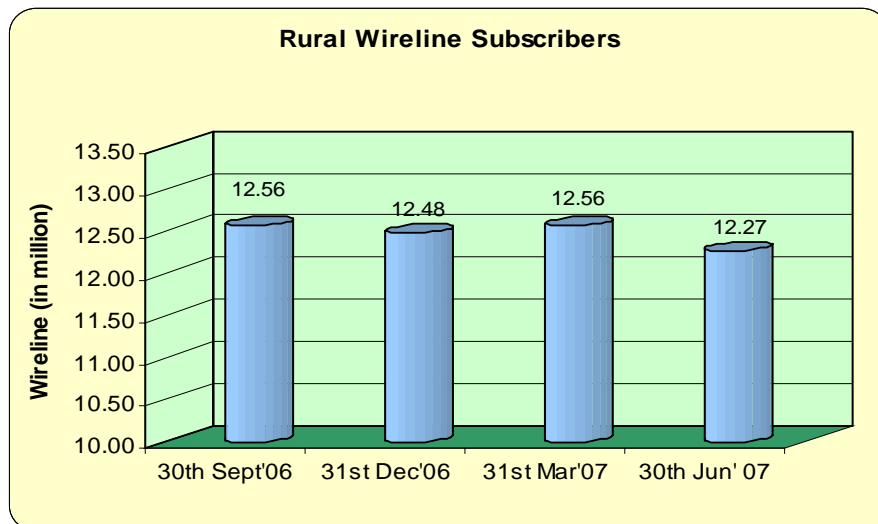
## EXECUTIVE SUMMARY

### A. Wireline Services

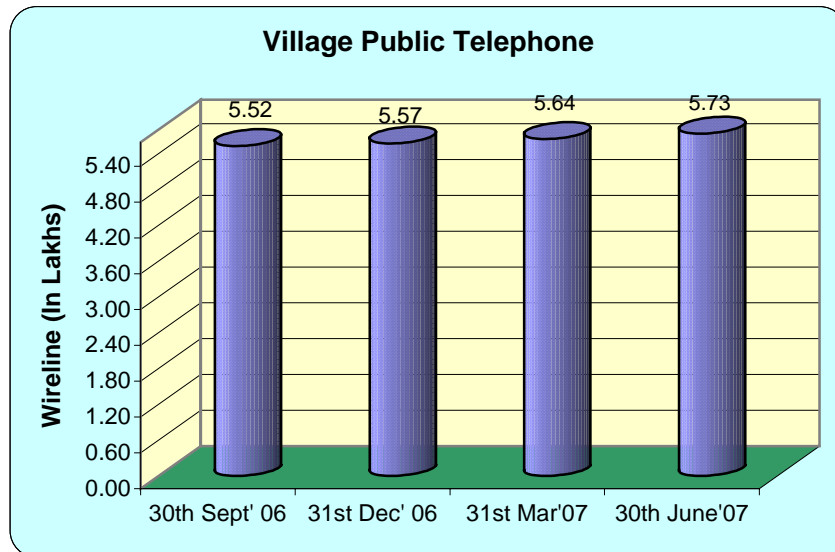
Wireline services subscriber base decreased from 40.75 million in quarter ending March 2007 to 40.09 million in quarter ending June 2007.



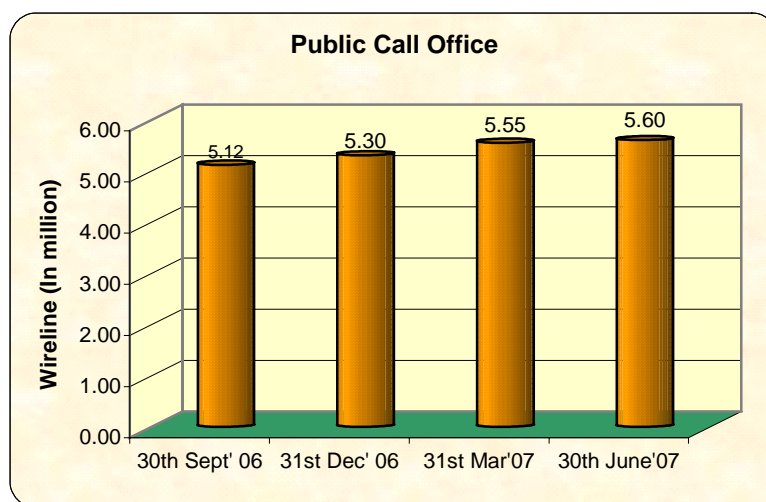
Rural Wireline Subscriber base decreased from 12.56 million in quarter ending March 2007 to 12.27 million in the quarter ending June 2007.



Number of VPTs has increased from 5.64 lakhs in quarter ending March 2007 to 5.73 lakhs in quarter ending June 2007.



Number of Public Call Offices (PCOs) have increased from 5.55 million in quarter ending March 2007 to 5.60 million in quarter ending June 2007.

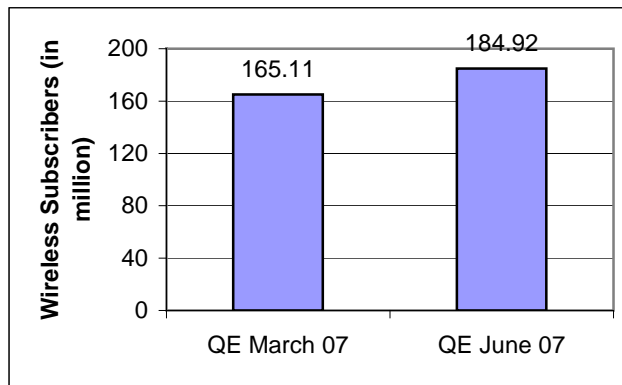


## B. Wireless Services

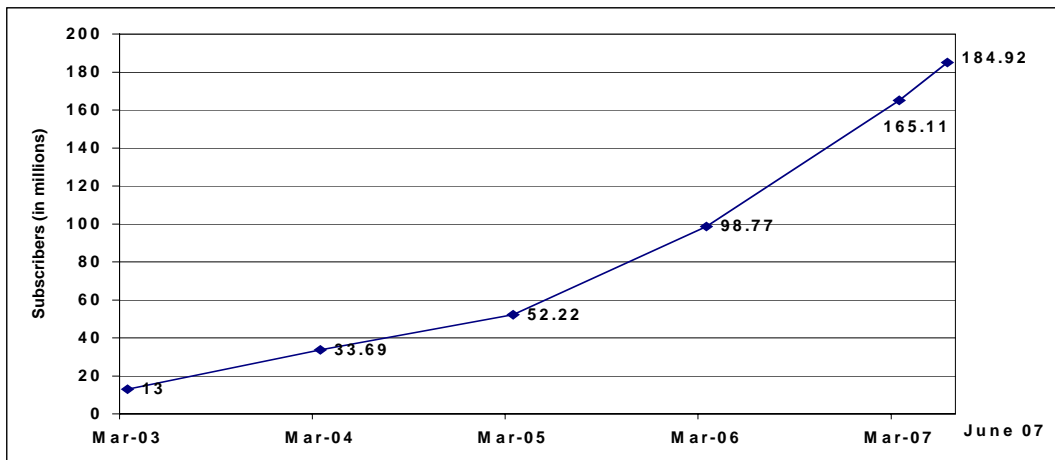
As on 30<sup>th</sup> June 2007, the Wireless (Mobile and WLL (F)) Market has reached 184.92 million subscribers as against 165.11 million subscribers in the previous quarter. During this quarter 19.81 million subscribers were added.

### (i) Subscriber Growth/Market Share

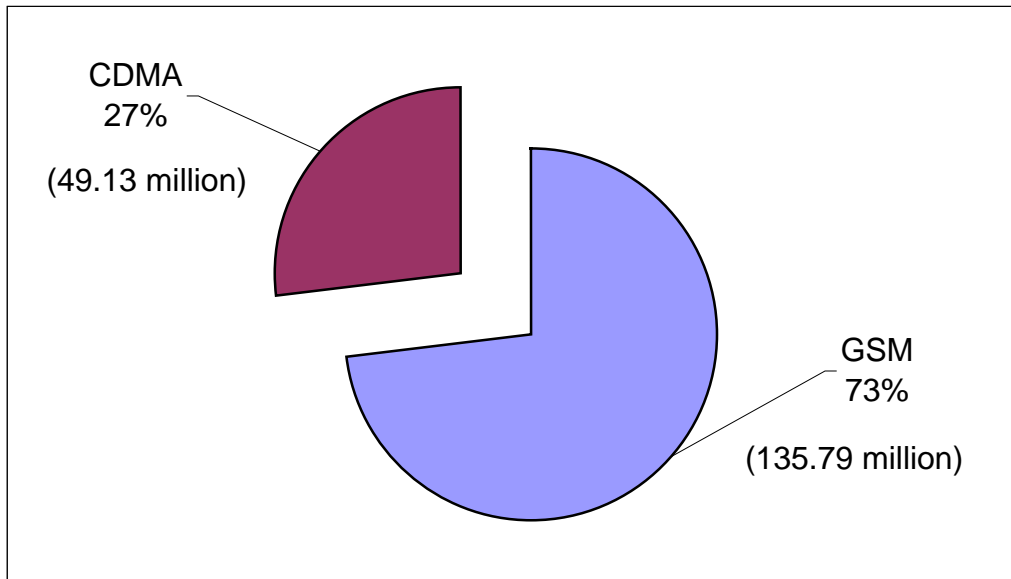
#### Wireless Subscribers



#### Total Subscriber Base (Wireless)



**Technology-wise Wireless Market Share (QE June 2007)**

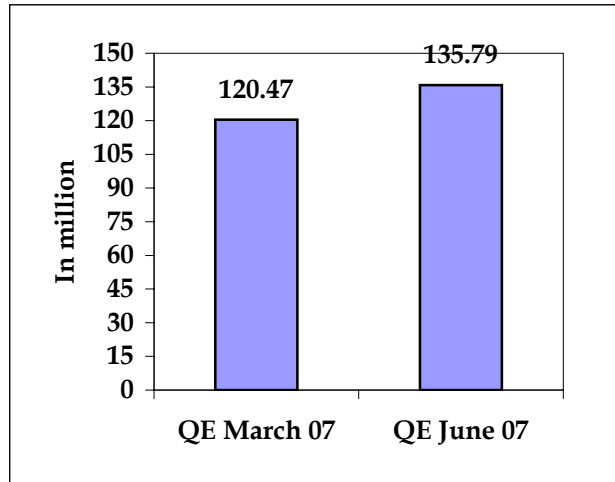




**(ii) GSM**

GSM segment has recorded 12.72% growth during the quarter and reached a subscriber base of 135.79 million.

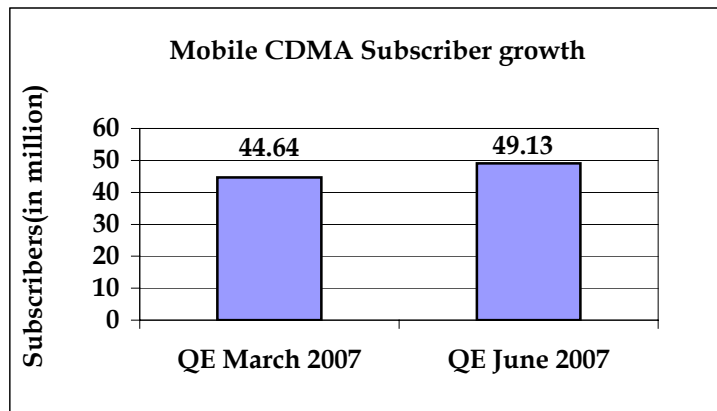
**GSM Subscribers Growth (in million)**



**(iii) CDMA**

CDMA subscriber base recorded a growth of 10.05% during the quarter and reached subscriber base of 49.13 million.

**CDMA Subscriber Growth**

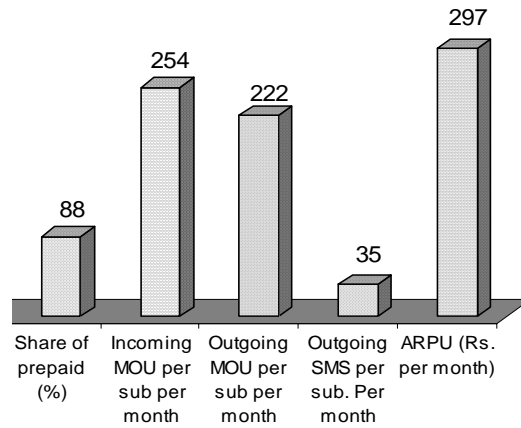


**(v) Average Revenue Per User (ARPU), Minutes of Usage (MoU), etc.**

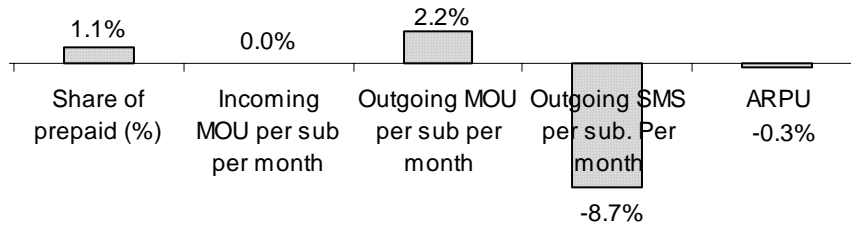
**(a) GSM**

- The All India blended ARPU per month of Rs. 297 has remained almost at the same level as compared with the figure of Rs. 298 per month for the previous quarter. However, ARPU of private GSM operators has staged a recovery by reversing the trend of falling ARPU. For the first time since March 2005, ARPU of private GSM operators has increased. Increase in ARPU noticed during the quarter is Rs. 6 (from Rs. 295 in March 2007 to Rs. 301 in June 2007). ARPU for postpaid service has shown an increase of 7% from Rs. 613 in Mar-07 to Rs. 655 in June-07. Prepaid ARPU has shown a slight decline of 0.80% from Rs. 250 in Mar-07 to Rs. 248 in June-07.
- MoU per subscriber has increased by 1% from 471 in quarter ending Mar-07 to 476 in quarter ending Jun-07. Outgoing MoUs grew at a rate of 2.2% as against 4.55% in the previous quarter. In Postpaid, total MoUs declined by 5% from 1050 in Mar-07 to 997 in June-07 whereas prepaid MoU increased by 5.20% from 384 to 404.
- Overall ratio of incoming-outgoing MoUs has been 53:47 for GSM services. For postpaid, ratio of incoming-outgoing minutes is 48:52 and for prepaid segment, it is 55:45
- As per the revenue reports furnished by the service providers, revenue, net of “pass through”, is about Rs. 11336 Crores in the quarter ending June-07 as against Rs. 10040 Crores for the quarter ending Mar-07. Growth in revenue has been 12.90% as against 8% in the previous quarter.

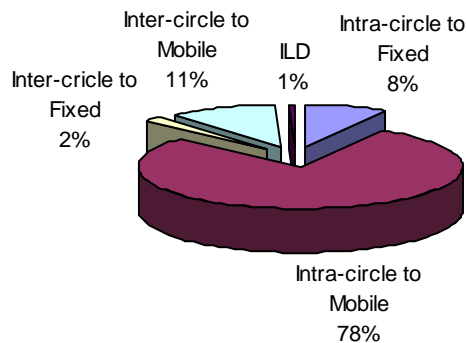
### Key Indicators for GSM (QE June 2007)



### Variation in Key Indicators over last quarter (in %)



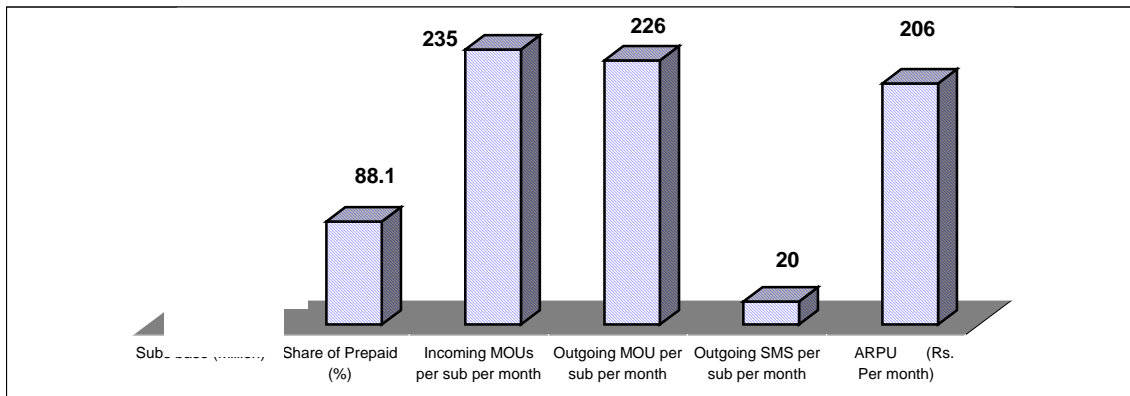
### GSM Originated Traffic - distribution by terminating network



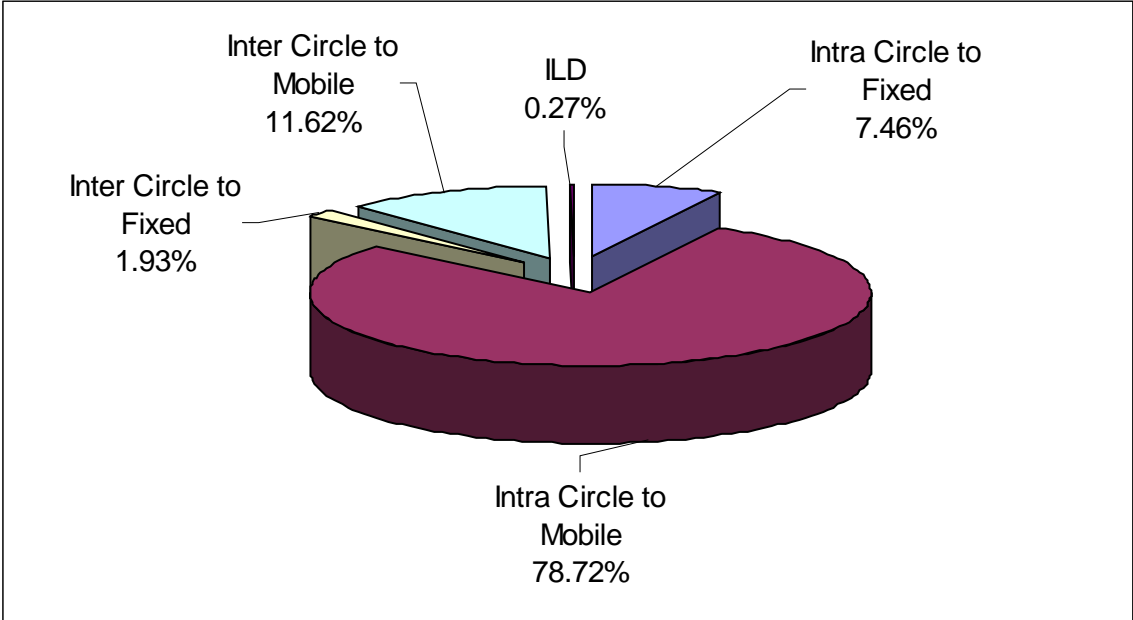
**(b) CDMA**

- All India blended ARPU (per month) for the quarter ending June 2007 is Rs. 206 as against Rs. 202 for the quarter ending March 2007.
- The lowest blended ARPU per month is in Kolkata (Rs.155) while the highest blended ARPU is in Mumbai (Rs. 318).
- Average MoU per subscriber per month for the quarter is 462. The highest MoUs is recorded for Circle C at 538 per subscriber per month, which is 16% higher than the all India figure at 462 per subscriber per month. The lowest MoUs have been seen in Circle A at 435, which is 6% lower than the all India figure of 462 MoUs per subscriber per month.
- According to the revenue reports submitted by the service providers for the quarter ending June-2007, revenue, net of “pass through”, from CDMA full mobility service is Rs. 2110.54 Crores which was Rs. 1892.88 Crores in the quarter ending March 2007.

**Key Indicators for CDMA**



**CDMA originated Traffic – distribution by terminating network**



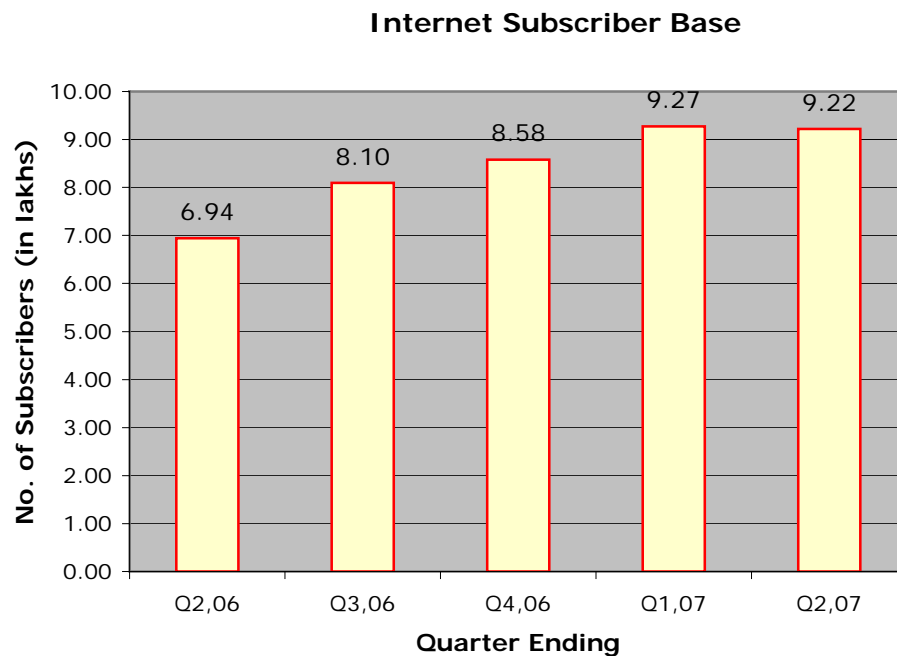
## C. Internet Services

Internet subscribers stood at 9.22 million for the quarter ending 30<sup>th</sup> June 2007 as compared to 9.27 million during the preceding quarter registering a decrease of approx. 0.50%. The growth is negative as compared to a positive growth of 8.03% during last quarter.

Besides above, there are 38.02 million Internet subscribers at the end of June 2007, who are accessing Internet through mobile handset (GSM/ CDMA).

The key indicators for Internet Services are presented below through bar charts.

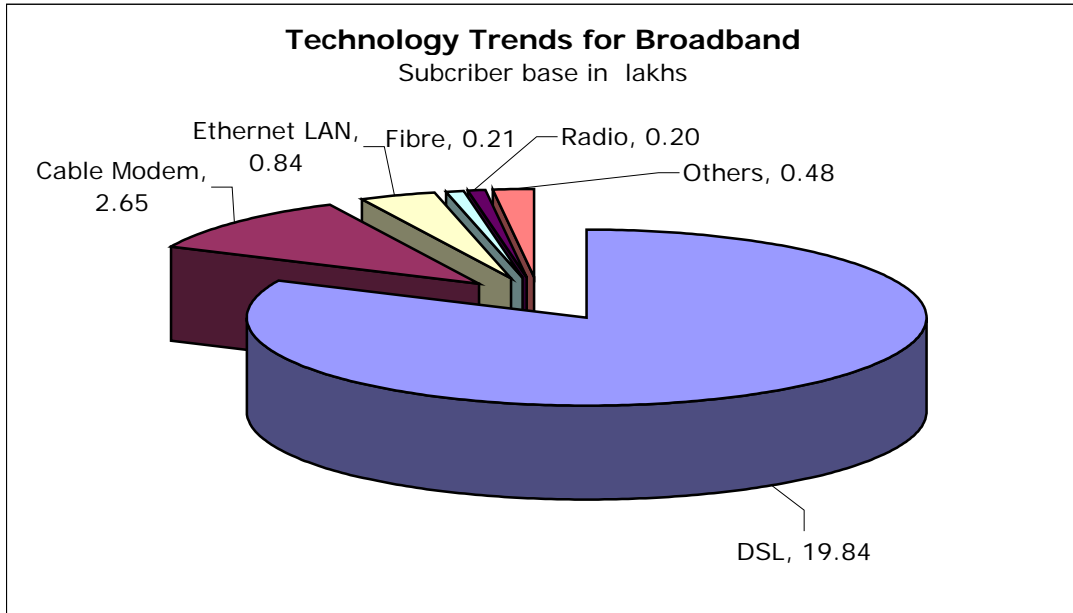
- i) **Internet Subscribers Growth** - There are 9.22 million Internet Subscribers during quarter ending June 2007.



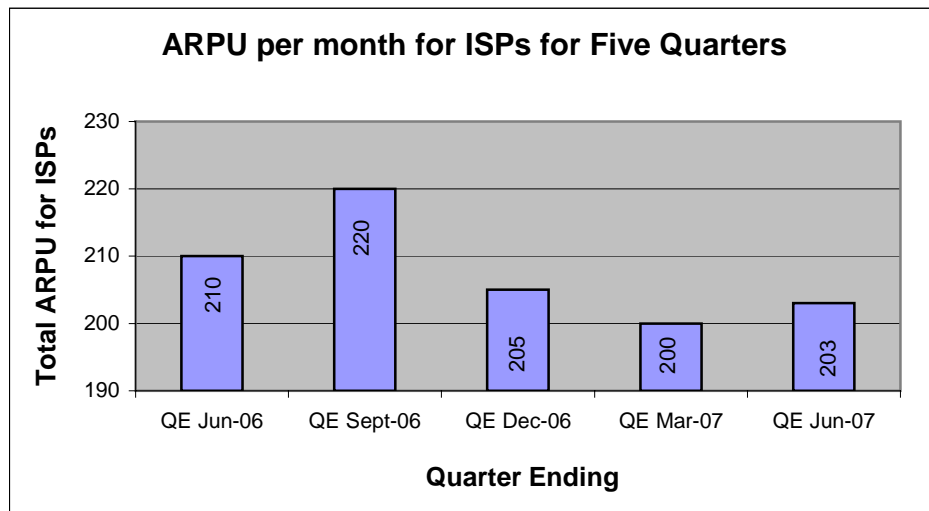
- ii) **Broadband Subscriber Growth** - The number of Broadband subscribers as reported by ISPs was 24.22 lakhs (2.42 million) during the quarter ending June 2007 as compared to 23.39 lakhs (2.34 million) for the quarter

ending March 2007, thus registering a growth of 3.55% over the previous quarter.

**iii) Broadband Subscribers Share (Technology wise)** – The number of Broadband subscribers (with a download speed of 256 Kbps or more) was 24.22 Lakhs for the quarter ending June 2007. Out of these 1984193 are DSL based; 264904 Cable Modem; 83521 Ethernet LAN; 20594 Fibre; 20466 Radio customers and 48541 Others.



**iv) ARPU** – Average Revenue Per User per month for dialup Internet Subscribers is Rs. 203/- for the quarter ending June 2007.



## D. Quality of Service

### QOS Performance during the year

#### (a) Wireline Services

The Wireline Service Providers has improvement as compared to the previous quarter in respect of parameters Provision of Telephones (New connection after registration of demand), Faults incidences, Mean Time to Repair, Call Completion Rate, Customer Care Services (Shifts & Closures), %age of calls answered electronically within 40 second and %age of calls answered by operator (Voce to voice) within 60 sec/ 90 sec. However, the performance has deteriorated in this quarter, as compared to the previous quarter, in respect of Faults repaired by next working day, Grade of Service, Metering & Billing credibility, Additional Facilities and Time taken for refund of deposits.

A comparison of performance of wireline service providers in meeting the key benchmarks is given below:

Sr. No.	Parameter	Bench- mark	No. of operators not meeting the benchmarks			
			March, 2007		June, 2007	
			Out of 79 in Nos	Out of 79 in %	Out of 78 in Nos	Out of 78 in %
1	Provision of Telephones after registration of demand	100% within 7 Days	70	88.61%	62	79.49%
2	Fault incidences per 100 subs/month	<5	25	31.65%	24	30.77%
3	Fault repaired by next working day	>90%	16	20.25%	22	28.21%
4	MTTR	<8Hrs	30	37.97%	28	35.90%
5	Grade of Service (Junction between local exchange)	2/1000	19	24.05%	19	24.36%



**(b) Wireless Service**

This report covers performance of 93 GSM operators and 42 CDMA service operators vis-à-vis the QoS benchmarks prescribed by TRAI.

The performance of the Wireless Service Providers has 100% achievement in respect of the parameters Service Access Delay, Call Drop Rate, %age of calls answered (electronically) within 20 sec and period of all refunds/payment due to customers from the date of resolution of complaints. The performance relating to the parameters Accumulated down time of Community isolation, Call Set-Up Success Rate, Service access delay, SDCCH/paging channel congestion, Call drop rate, %age of calls answered by operator (voice to voice); within 60 seconds = 80 %, Complaints per 100 bills issued and %age of complaints resolved with 4 weeks has improved in this quarter as compared to the previous quarter. However, the performance of the Service Providers has deteriorated in respect of the parameters TCH Congestion, %age of Connections with good voice quality, %age of calls answered by operator (voice to voice); within 90 seconds = 95%.

The comparative statement of the key parameters is given in the following table:-

Sr. No.	Parameters	Bench-Marks	No. Of Operators Meeting The Benchmarks			
			Quarter Ending March, 2007		Quarter Ending June, 2007	
			Out Of 135 (Nos.)	Out Of 135(%)	Out Of 135 (Nos.)	Out Of 135 (%)
1	Accumulated down time of Community isolation	<24 hrs	<b>133</b>	98.52%	<b>134</b>	99.26%
2	Call Set-Up Success Rate (Within Licensee's Own network)	>95%	<b>133</b>	98.52%	<b>134</b>	99.26%
3	Service access delay	<15 Sec	<b>131</b>	97.04%	<b>135</b>	100%
4	Call drop rate	<3.0%	<b>133</b>	98.52%	<b>135</b>	100%
5	%age of Connections with good voice quality	>95%	<b>131</b>	97.04%	<b>130</b>	96.30%

### (c) Broadband Service

There are 64 broadband service providers having subscriber base of 24.22 lakhs subscribers. Among these 64 broadband service providers 10 service providers (who are having subscriber base more than 10,000 broadband subscribers) have the total 23.67 lakhs subscribers i.e. about 98% of total broadband subscriber base. This report covers performance of these 10 broadband service providers vis-à-vis the QoS benchmarks prescribed by TRAI. Broadband Regulations came into force with effect from 1<sup>st</sup> Jan 2007 and this is the second Performance Monitoring Report (PMR) of Broadband service providers.

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## (ii) Quarterly Results at a Glance

## Performance Indicators of Telecom Services for QE JUNE 2007

## A. Growth of Wireline &amp; Wireless Services:-

	QE Jun 2006	QE Sept 2006	QE Dec 2006	QE Mar 2007	QE Jun 2007	%age growth over Jun 2006 (12 months)	%age growth over Sept 2006 (9 months)	%age growth over Dec 2006 (6 months)	%age growth over Mar 2007 (3 months)
<b>1) Subscriber's Base (in million)</b>									
i) Wireline	41.27	40.48	40.30	40.75	40.09	-2.86	-0.96	-0.52	-1.62
ii) Wireless	112.15	129.54	149.62	165.11	184.92	64.89	42.75	23.59	12.00
<b>Gross Total</b>	<b>153.42</b>	<b>170.02</b>	<b>189.92</b>	<b>205.86</b>	<b>225.01</b>	<b>46.66</b>	<b>32.34</b>	<b>18.48</b>	<b>9.30</b>
<b>2) Traffic (MoU) (minutes of use/ sub/month)</b>									
Wireless									
i) GSM	414	425	454	471	476	14.98	12.00	4.85	1.06
ii) CDMA	443	413	424	471	462	4.29	11.86	8.96	-1.91
<b>3) ARPU (Rs./sub/ month)</b>									
Wireless									
i) GSM	352	337	316	298	297	-15.63	-11.87	-6.01	-0.34
ii) CDMA	228	215	196	202	206	-9.65	-4.19	5.10	1.98
<b>4) Teledensity</b>									
Population in million (Estimated)									
i) Wireline	3.76	3.67	3.64	3.61	3.54	-5.77	-3.59	-2.80	-1.97
ii) Wireless	10.20	11.74	13.52	14.62	16.32	59.94	38.97	20.76	11.60
<b>Gross Total</b>	<b>13.96</b>	<b>15.41</b>	<b>17.16</b>	<b>18.23</b>	<b>19.86</b>	<b>42.26</b>	<b>28.84</b>	<b>15.76</b>	<b>8.92</b>

## B. Growth of Internet &amp; Broadband Services:-

	QE Jun 2006	QE Sept 2006	QE Dec 2006	QE Mar 2007	QE Jun 2007	%age growth over Jun 2006 (12 months)	%age growth over Sept 2006 (9 months)	%age growth over Dec 2006 (6 months)	%age growth over Mar 2007 (3 months)
<b>1) Subscriber's Base (in million)</b>									
i) Internet	7.71	8.10	8.58	9.27	9.22	19.60	13.88	7.46	-0.5
ii) Wireless Internet *				31.30	38.02				21.47
ii) Broadband Connections (>=256 Kbps download speed)	1.57	1.82	2.05	2.34	2.42	54.27	33.08	18.15	3.55
<b>2) Minutes of Use (Dialup Internet) (MoU/ subs/month)</b>									
	190	185	190	180	195	2.63	5.41	2.63	8.33
<b>3) ARPU (Dialup Internet) (Rs/subs/month)</b>									
	210	220	205	200	203	-3.33	-7.73	-0.98	1.50

\* Accessing Internet through wireless (GSM &amp; CDMA) networks

**C. Performance of service providers during the quarter: -**

**(I) Wireline Subscribers Base(in Million)**

1) Wireline Service Providers	QE Jun 2006	QE Sept 2006	QE Dec 2006	QE Mar 2007	QE Jun 2007	%age growth over Jun 2006 (12 months)	%age growth over Sept 2006 (9 months)	%age growth over Dec 2006 (6 months)	%age growth over Mar 2007 (3 months)
BSNL	34.94	33.97	33.58	33.74	32.91	-5.81	-3.12	-2.00	-2.46
MTNL	3.80	3.71	3.69	3.73	3.67	-3.42	-1.08	-0.54	-1.48
Bharti	1.48	1.63	1.74	1.87	1.97	33.11	20.86	13.22	5.27
Reliance	0.30	0.39	0.49	0.57	0.64	113.33	64.10	30.61	12.68
Tata/ Hughes	0.42	0.46	0.48	0.53	0.58	38.10	26.09	20.83	10.06
HFCL	0.18	0.17	0.17	0.17	0.16	-11.11	-5.88	-5.88	-4.76
Shyam	0.15	0.15	0.15	0.15	0.16	6.67	6.67	6.67	3.90
<b>Total</b>	<b>41.27</b>	<b>40.48</b>	<b>40.30</b>	<b>40.75</b>	<b>40.09</b>	<b>-2.86</b>	<b>-0.96</b>	<b>-0.52</b>	<b>-1.63</b>

**(II) Wireless Subscriber Base (in Million)**

Service Provider	QE Jun 2006	QE Sept 2006	QE Dec 2006	QE Mar 2007	QE Jun 2007	%age growth over Jun 2006 (12 months)	%age growth over Sept 2006 (9 months)	%age growth over Dec 2006 (6 months)	%age growth over Mar 2007 (3 months)
Bharti	23.09	27.06	31.97	37.14	42.70	84.93	57.80	33.55	14.97
BSNL	21.02	23.70	26.60	30.98	32.05	52.47	35.23	20.49	3.45
Reliance	22.52	25.98	29.98	28.01	31.88	41.56	22.71	6.32	13.82
Vodafone / Hutch	17.54	20.36	23.31	26.44	30.75	75.31	51.03	31.92	16.30
Tata Tele	10.36	12.38	14.45	16.02	17.32	67.18	39.90	19.86	8.11
Idea	8.54	10.36	12.44	14.01	16.13	88.88	55.69	29.66	15.11
Aircel	3.20	3.80	4.51	5.51	6.77	111.56	78.16	50.11	22.87
MTNL	2.31	2.43	2.60	2.94	2.81	21.65	15.64	8.08	-4.42
Spice	2.05	2.20	2.45	2.73	3.17	54.63	44.09	29.39	16.12
BPL	1.30	1.05	1.06	1.07	1.09	-16.15	3.81	2.83	1.58
HFCL	0.15	0.15	0.15	0.15	0.15	0.00	0.00	0.00	0.00
Shyam	0.06	0.08	0.09	0.10	0.10	66.67	25.00	11.11	0.00
<b>Total</b>	<b>112.15</b>	<b>129.54</b>	<b>149.62</b>	<b>165.11</b>	<b>184.92</b>	<b>64.89</b>	<b>42.75</b>	<b>23.59</b>	<b>12.00</b>

## CHAPTER ONE

### PERFORMANCE OF WIRELINE SERVICES

#### 1.1 Subscribers Base: -

1.1.1 The Wireline services were provided by 5 licensed private operators in addition to incumbents BSNL and MTNL as on 30<sup>th</sup> June 2007. List of Wireline Service providers along with their areas of operation is given in Table 1 below:

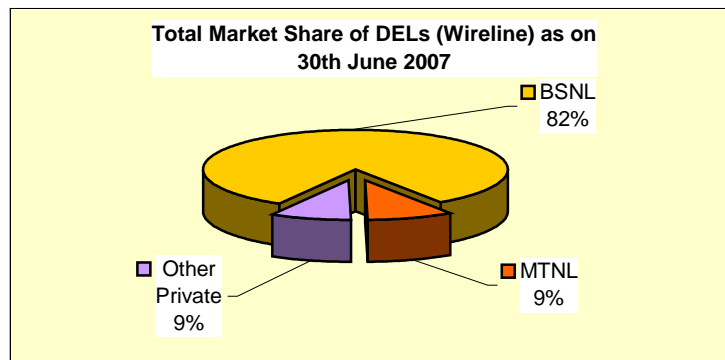
**Table 1**

<b>Sl. No.</b>	<b>Name of the Service Provider</b>	<b>Area of Operation</b>
1	BSNL	All India except Delhi & Mumbai
2	MTNL	Delhi & Mumbai
3	Bharti Airtel Ltd	Andhra Pradesh, Chennai, Delhi, Gujarat, Haryana, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Punjab, Rajasthan, Tamil Nadu (incl. Chennai), UP(E),UP(W) (incl. Uttaranchal) and West Bengal.
4	Tata Teleservices (Maharashtra) Ltd.	Maharashtra, Mumbai
5	Tata Teleservices Ltd.	Andhra Pradesh, Bihar, Chennai, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Kolkata, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu, UP(E), UP(W) including Uttaranchal and West Bengal
6	HFCL Infotel Ltd	Punjab
7	Shyam Telelink Ltd	Rajasthan
8	Reliance Communications Ltd.	Andhra Pradesh, Bihar, Chennai, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Kolkata Madhya Pradesh, Maharashtra, Mumbai, Orissa, Punjab, Rajasthan, Tamil Nadu, UP (E), UP (W) and West Bengal

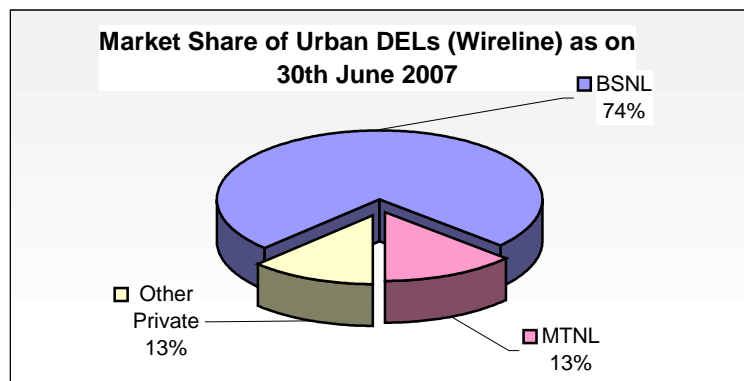
### 1.1.2 Market Share of DELs.

As on 30<sup>th</sup> June 2007, the total subscriber base of Wireline services stood at 40.09 million. The incumbents BSNL and MTNL have 82% and 9% market share respectively in the subscriber base, while all the five private operators together have 9% share. In the current quarter the wireline market share of private operators has increased by 1% to 9% as compare to 8% in previous quarter wireline market share. As on 30th June 2007, the total Urban DELs are 27.82 million and Rural DELs are 12.27million. The market share of Total DELs, Urban DELs and Rural DELs is shown in the chart below:

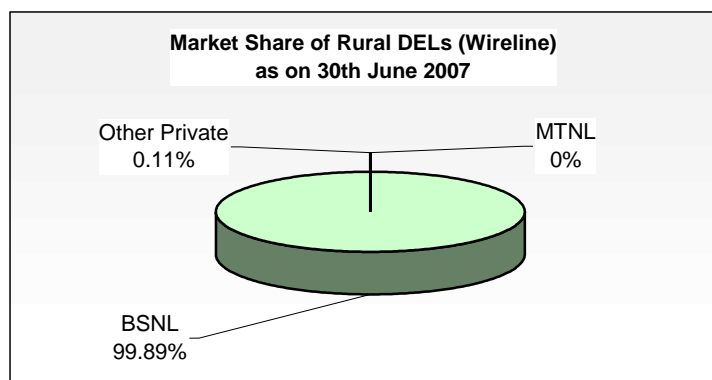
#### A. Distribution of Market share of Urban + Rural Wireline subscriber



#### B. Distribution of Market share of Urban Wireline subscriber

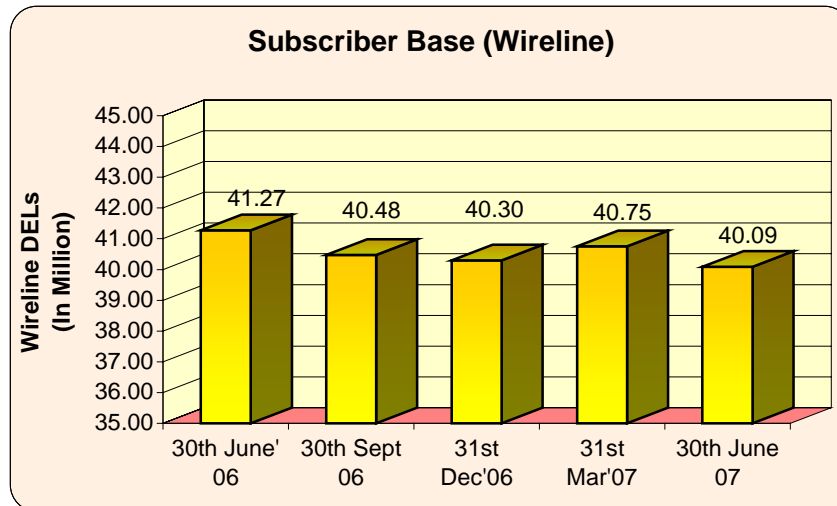


#### C. Distribution of Market share of Rural Wireline subscriber



### 1.1.3 Subscriber Base of Wireline for last five quarters

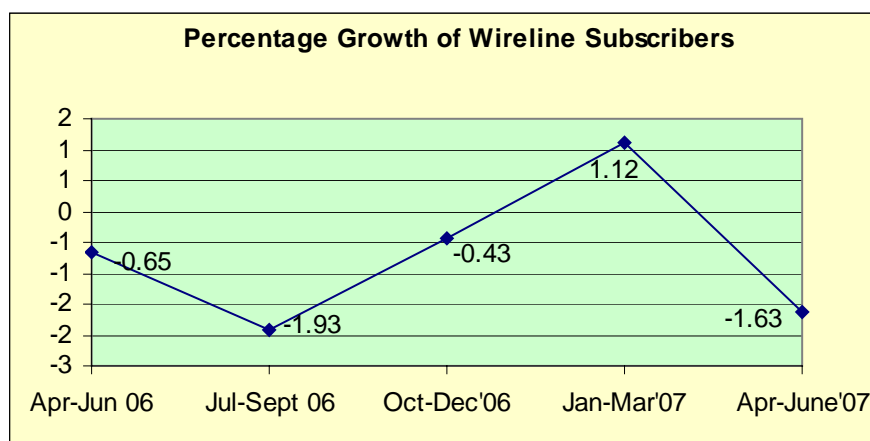
The subscriber base of the Wireline service sector for last five quarters is depicted below:



### 1.1.4 Growth of DELs

The Wireline Service sector has registered a decrease of 6,65,365 lines during the quarter from April'2007 to June'2007. The net number of DELs has decreased to 40.09 million as on 30th June 2007 from 40.75 million at the end of previous quarter. The overall percentage of decrease in subscriber base during the Quarter is 1.63%.

During the quarter ending 30<sup>th</sup> June 2007 some service providers have increased their respective wireline subscriber base such as Bharti Airtel Ltd. from 1.87 million to 1.97 million, Tata Teleservices Ltd. (TTL) (including Maharashtra) from 0.53 million to 0.58 million, Shyam Telelink Ltd. from 0.15 million to 0.16 million and Reliance Communications Ltd. (RCL) from 0.57 million to 0.64 million. The reduction in the subscriber base of Wireline during the quarter ending is by BSNL from 33.74 million to 32.91 million, MTNL from 3.73 million to 3.67 million and M/s HFCL Infotel Ltd. from 0.17 million to 0.16 million.

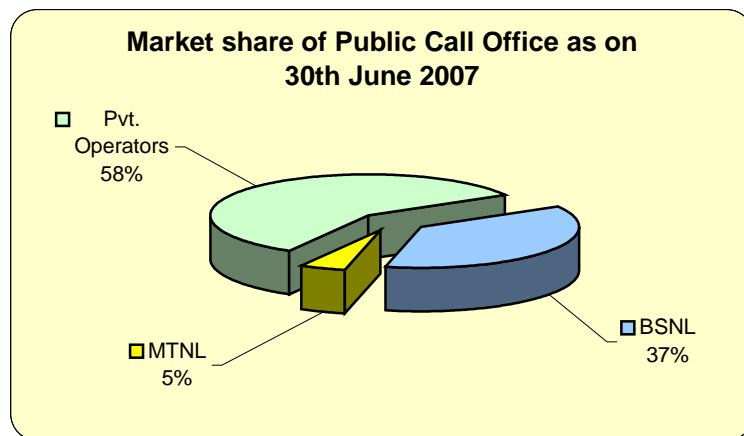


## 1.2 Other Performance Indicators: -

### 1.2.1 Public Call Offices:

During the current quarter 53,478 new PCOs have been added. Total number of PCOs in the country as on 30th June 2007 is 5.60 million. The share of BSNL is 2.07 million i.e. 37% of the total PCOs. The share of MTNL and other private operators combined is 0.26 million (5%) and 3.27 million (58%) respectively.

Operator-wise (BSNL/MTNL/Other Private Operators) market share of PCO is depicted in the chart below. Operator-wise details of PCOs is available at Table 1.2.

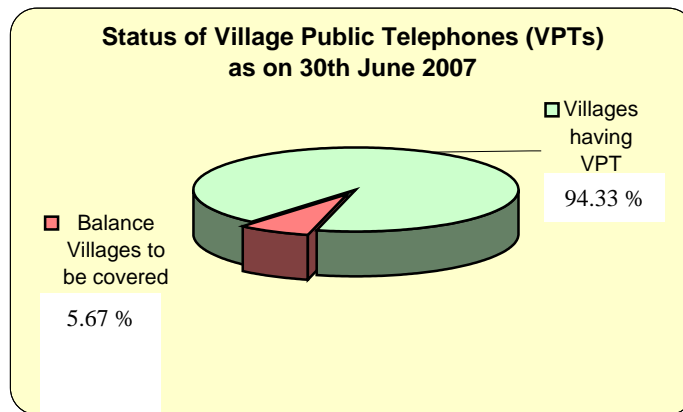




### 1.2.2 Village Public Telephones (VPT):

There are 6,07,491 villages in India. During the previous quarter ending 31st March 2007 there were 5,64,075 VPTs in the country whereas by the end of this quarter i.e. 30th June 2007, the total number of VPTs has increased to 5,72,997. Thus 8,922 VPTs have been added during the current quarter. BSNL has added 8,964 VPTs during the quarter. Among the five private operators there was a decrease of 42 VPTs during this quarter. The total number of villages left uncovered, as on 30th June 2007 are 34,494. The status of VPT's is depicted in the chart below:-

Circle-wise and Operator-wise details of village public telephones as on 30th June 2007 and achievement during the quarter are available at Table 1.3.



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## CHAPTER TWO

### PERFORMANCE OF WIRELESS SERVICES

Subscriber Base crosses 184 million
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#### **PART A:**

**2.1 Details of service providers:** - The list of all the Wireless service providers along with their licensed service area is as under: -

SLNO	Service Provider	Area for which licensed with No.	Area for which not licensed	UASL Service Licensed
1	BSNL/MTNL	All India (23)		
2	Bharti	All India (23)		All India except NE
3	Aircel Group	All India (23)		All India except Chennai & TN
4	Reliance Group	All India (23)		All India except NE & AS
	Reliance Infocomm	All India (except Assam & NE) (21)	Assam & NE	All India except NE & AS
	Reliance Telecom	MP, WB, HP, Bihar, Orissa, Assam & NE (7)	Delhi, Mumbai, Chennai, Kolkata, MH, Gujarat, AP, KTK, TN, Kerala, PB, Haryana, UP (W), UP (E), Rajasthan & J&K	
	Reliable Internet Services Ltd	Kolkata (1)	All India except Kolkata	
5	Vodafone/ Hutch	All India (except MP) (22)	MP	UP-W, WB, HP, Bihar, Orissa, Assam, NE, J&K
6	Tata Teleservices	All India (except ASM, NE & J&K) (20)	AS, NE & J&K	All India except (AS, NE & J&K)
7	IDEA	Delhi, Mumbai, MH, Guj, AP, KER, HR, UP-W, UP-E, Raj, MP, HP & Bihar (13)	Chennai, Kolkata, KTK, TN, Punjab, WB, Orissa, Assam, NE & J&K	Mumbai, Bihar
8	Spice Communications	KTK, Punjab (2)	All India except (KTK, Punjab)	KTK, Punjab
9	BPL	Mumbai (1)	All India except (Mumbai)	--
10	HFCL	Punjab (1)	All India except Punjab	Punjab
11	Shyam Telelink	Rajasthan (1)	All India except Rajasthan	Rajasthan

Note: 1. Reliance Telecom for all his circles has applied for Unified Licence.

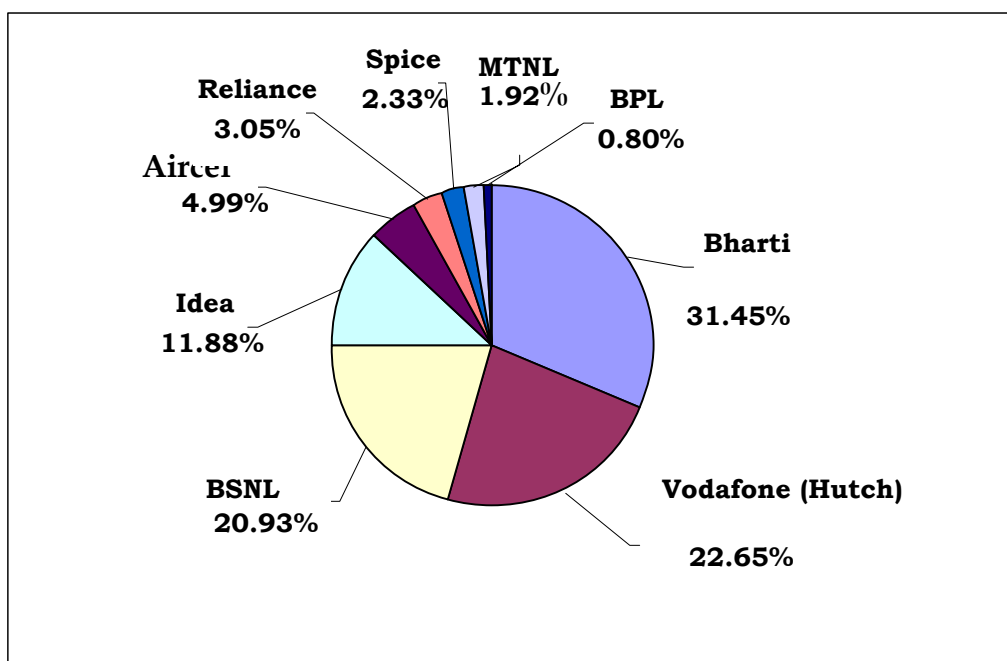
Circle-wise details of Wireless, Wireline & Unified Access Service providers at the end of the quarter are given at Annex 2.1.

## 2.2 Growth of Subscribers Base: -

### 2.2.1 GSM sector

- The GSM subscribers' base has reached 135.79 million in the quarter ending June 2007 as against 120.47 million at the end of the previous quarter. The quarterly growth for this quarter is 12.72%.
- M/s Bharti with 42.70 million subscriber base remains the largest GSM mobile operator followed by M/s Vodafone (Hutchison), M/s BSNL, and M/s Idea with subscribers base of 30.75 million, 28.42 million and 16.13 million respectively.
- The subscriber base of Bharti, BSNL, Vodafone (Hutch) & Idea is around 87% of the total GSM subscribers base.
- Private operators contribute 77.15% subscribers and public sector operators (BSNL & MTNL) contribute only 22.85% subscribers in the GSM segment.

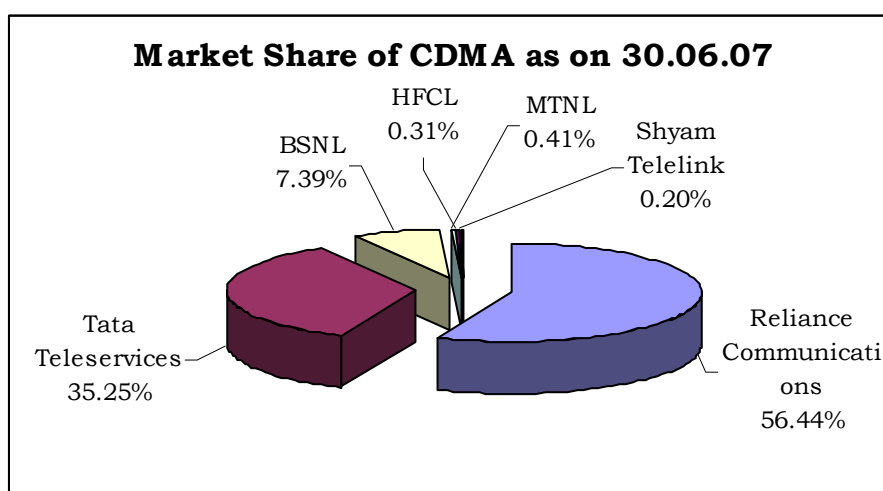
### Operator-wise Market Share of GSM service providers as on 30.06.07



### 2.2.2 CDMA sector

- The CDMA Subscribers Base has reached 49.13 million during the quarter ending June 2007 as against 44.64 million at the end of March 2007. The quarterly growth in this quarter is 10.06% as against 1.00% for the previous quarter.
- M/s Reliance remains the largest CDMA mobile operator followed by M/s Tata Teleservices and M/s BSNL with subscribers base of 27.73 million, 17.32 million and 3.63 million respectively. However M/s MTNL in Delhi & M/s BSNL in MH, AP, Punjab, Haryana, & MP, M/s HFCL in Punjab has registered a negative subscriber growth.

#### Operator-wise Market Share of CDMA Wireless as on 30.06.07



### 2.2.3 Wireless Subscribers Base

As on 30.6.2007, the Wireless (Mobile and WLL (F)) market has reached the 184.92 million subscriber mark as against 165.11 million subscribers in the previous quarter.

### 2.2.4 Addition in Subscribers Base

During this quarter 19.81 million subscribers were added. The total subscriber base of 184.92 million comprises of 73.43% GSM mobile (135.79 million) & 26.57% CDMA Mobile (49.13 million). The growth rate recorded in this quarter is 12.00% as against 10.35% in the previous quarter

### 2.2.5 Company wise Market Share

- a) As on 30<sup>th</sup> June 2007, the total subscriber base of 184.92 million comprises of 147.52 million urban subscribers and 37.40 rural subscribers. The Subscriber Base of different wireless operators alongwith their rural subscriber base is given in Table 2.1

The top six Wireless operators on the basis of market share are: -

<b>Sl.</b>	<b>Operator (With number of Operating Circle)</b>	<b>Subscribers Base</b>	<b>Market Share</b>
1	Bharti (23)	42.70	23.09%
2	Reliance (23)	32.05	17.33%
3	BSNL (21)	31.88	17.24%
4	Vodafone/Hutch (Group) (16)	30.75	16.63%
5	Tata (20)	17.32	9.37%
6	Idea (11)	16.13	8.72%
7	Others	14.09	7.62%
	<b>Total</b>	<b>184.92</b>	<b>100%</b>

The details of operator-wise subscribers of GSM and CDMA are given in Table 2.2.

- b) Distribution of Subscriber base and market share of Wireless services as on June 2007 among Metros, Circles A to C is given in Table 2.3.

## PART B : ARPU and MoU

### 2.3 GSM

#### 2.3.1 Average Revenue Per User (ARPU)

- The all India blended ARPU is Rs. 297/- per month as compared to Rs. 298 per month for the previous quarter.
- ARPU for postpaid service has shown an increase of 7% from Rs. 613 in Mar-07 to Rs. 655 in June-07. For private operators alone, postpaid ARPU has shown an increase of 8.8%.
- Prepaid ARPU has shown a slight decline of 0.8% from Rs. 250 in Mar-07 to Rs. 248 in June-07. This decline is on account of decline in ARPU of BSNL/MTNL.
- As per the revenue reports furnished by the service providers, revenue, net of “pass through”, is about Rs. 11336 Crores in the quarter ending June-07 as against Rs. 10040 Crores for the quarter ending Mar-07. Growth in revenue has been 12.90% as against 8% in the previous quarter.

#### ARPU (Rs. per month during the quarter)

Circle	Postpaid	Prepaid	Blended ARPU
Circle A	664	244	295
Circle B	545	239	261
Circle C	594	274	307
<b>Metro</b>	739	261	369
All India	<b>655</b>	<b>248</b>	<b>297</b>
<b>All private SPs</b>	709	248	301
<b>BSNL/MTNL</b>	506	248	283

- On all India average, growth in subscriber base has been 12% and the revenue has grown by 13%. However, at circle level variation is observed in the growth rates of subscriber base and net revenue.

#### Composition of Revenue (%)

Item	Mar-07	Jun-07
Rental Revenue	23.4%	22.5%
Revenue from Call charges (usage)	52.9%	55.8%
Revenue from Roaming *	9.7%	8.3%
Revenue from SMS	5.6%	4.9%
Other Revenues \$	8.4%	8.5%

#### Notes:

\$ Prepaid outroaming revenue has not been given separately by Bharti. This has been clubbed with call revenue.

§ Revenue arising out of National roaming service and International roaming services are clubbed. It is, therefore, difficult to conclude anything categorical on the trend of roaming contribution to total revenue.

\* Other revenue includes revenue from other value added services, installation etc.

### **2.3.2 Usage Pattern**

- MoU per subscriber increased by 1% from 471 in quarter ending Mar-07 to 476 in quarter ending Jun-07. Outgoing MoUs grew at a rate of 2.2% as against 4.55% in the previous quarter.
- All India average incoming MoU per subscriber remained at the same level as previous quarter.
- In Postpaid, total MoUs declined by 5% from 1050 in Mar-07 to 997 in June-07 whereas prepaid MoU increased by 5.20% from 384 to 404.
- Overall ratio of incoming-outgoing MoUs has been 53:47 for GSM services. For postpaid, ratio of incoming-outgoing minutes is 48:52 and for prepaid segment, it is 55:45.
- Outgoing SMS per subscriber has declined by 8.74% as against 19.3% in the quarter ending Mar-07. As indicated in the report for the previous quarter, this could be a case of higher prices pushing down the usage.

Detailed data is given in Annex. 2.2.

### **2.3.3 Average Subscriber outgo (rental + call charges) per minute**

The tariff plans are of bundled nature and the trade-off is generally between monthly fixed charges and Variable (call) charges. Annex 2.4 indicates the average outgo per outgoing minute i.e. Rental revenue + Airtime revenue per outgoing minute.

- All India average outgo per minute has declined from Rs. 1.15 in Mar-07 to Rs. 1.11 in June-07.

## 2.4 CDMA

### 2.4.1 ARPU (Average Revenue Per User per month)

- All India blended ARPU (per month) for the quarter ending June 2007 is Rs. 206 as against Rs. 202/- for the quarter ending March 2007.
- The lowest blended ARPU per month is in Kolkata (Rs.155) while the highest blended ARPU is in Mumbai (Rs. 318).
- The huge difference between postpaid and prepaid ARPU noted last quarter continued to remain valid for this quarter as well. Postpaid ARPU has been 2.87 times that of prepaid ARPU, which perhaps, could be attributed to declining importance of processing fee on recharge coupon/ voucher purchased by prepaid subscribers. The gap is lowest in Circle C (2.09 times) and highest in Metro (3.37 times).
- According to the revenue reports submitted by the service providers for the quarter ending June-2007, revenue, net of “pass through”, from CDMA full mobility service is Rs. 2110.54 Crores which was Rs. 1892.88 Crores in the quarter ending March 2007.

#### ARPU (Rs. per month during the quarter) – CDMA

<b>Circle</b>	<b>Postpaid</b>	<b>Prepaid</b>	<b>Blended ARPU</b>
Circle A	438	163	197
Circle B	392	157	181
Circle C	425	203	216
Metro	614	182	257
<b>All India</b>	<b>482</b>	<b>168</b>	<b>206</b>

#### Composition of Revenue (%)

<b>Item</b>	<b>March-07</b>	<b>June-07</b>
Rental Revenue	22.3%	20.7%
Revenue from Call Charges (usage)	65.7%	67.8%
Revenue from SMS	1.8%	1.9%
Roaming Revenue	7.6%	6.4%
Other Revenues*	10.2%	9.6%

\* Other revenue includes revenue from other value added services, installation etc.

### 2.4.2 Usage Pattern (Minutes of Usage)

- Average MoU per subscriber per month for the quarter is 462 minutes.
- The highest MoUs is recorded for Circle C at 538 minutes per subscriber per month, which is 16 % higher than the all India figure at 462 minutes per subscriber per month.



- The lowest MoUs have been seen in Circle A at 435 minutes, which is 6% lower than the all India figure at 462 MoUs per subscriber per month.
- The ratio of incoming – outgoing traffic is 51:49 in the quarter ending June-2007 as against 52:48 reported for the quarter ending March-2007.
- The highest number of SMS per subscriber is recorded in Circle A (24 per subscriber per month), which is 20% higher than the all India at 20 SMS per subscriber per month.

Detailed data is given in Annex. 2.3.

#### **2.4.3 Average Subscriber Outgo (rental + call charges) Per Minute**

Average Subscriber Outgo per minute (Rental Revenue + Airtime Revenue per outgoing minute) is given in Annex. 2.4.

The All India Average Subscriber Outgo per minute is Re. 0.85 in June 2007 as against Re. 0.81 in March 2007.

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## CHAPTER THREE

### PERFORMANCE OF INTERNET SERVICES

#### 3.1 Service Providers & Subscribers Base: -

Total 9.22 million Internet subscribers were reported in quarter ending June 2007 as compared to 9.27 million during the preceding quarter, registering a decrease of approx. 0.50% over previous quarter.

Bharat Sanchar Nigam Ltd (BSNL) has retained its top position and reported a subscriber base of 4.07 million Internet subscribers against 4.19 million during the previous quarter. Mahanagar Telephone Nigam Limited (MTNL) has retained second position with a subscriber's base of 1.75 million. M/s Sify Limited is third with subscriber base of 0.83 million. (Ref. Table 3.1).

The decrease in the subscriber base is mainly due to decline in subscriber base of M/s BSNL, which has decreased from 4191173 to 4068349 showing a decline of 2.93% in this quarter. Also, in this quarter there is no major growth shown by top 10 ISPs, who are holding 96.66% of the total market share.

Besides above, there are 38.02 million Internet subscribers at the end of June 2007, who are accessing Internet through mobile handset (GSM/ CDMA).

#### 3.2 Internet Telephony: -

Department of Telecom (DOT) has granted permission to 125 ISPs to offer Internet Telephony services. As per the reports submitted to TRAI, 28 ISPs are offering Internet Telephony services, the list of which is enclosed at Annex 3.2. Total minutes of the use (MoU) for Internet Telephony during the quarter were 112.26 million.

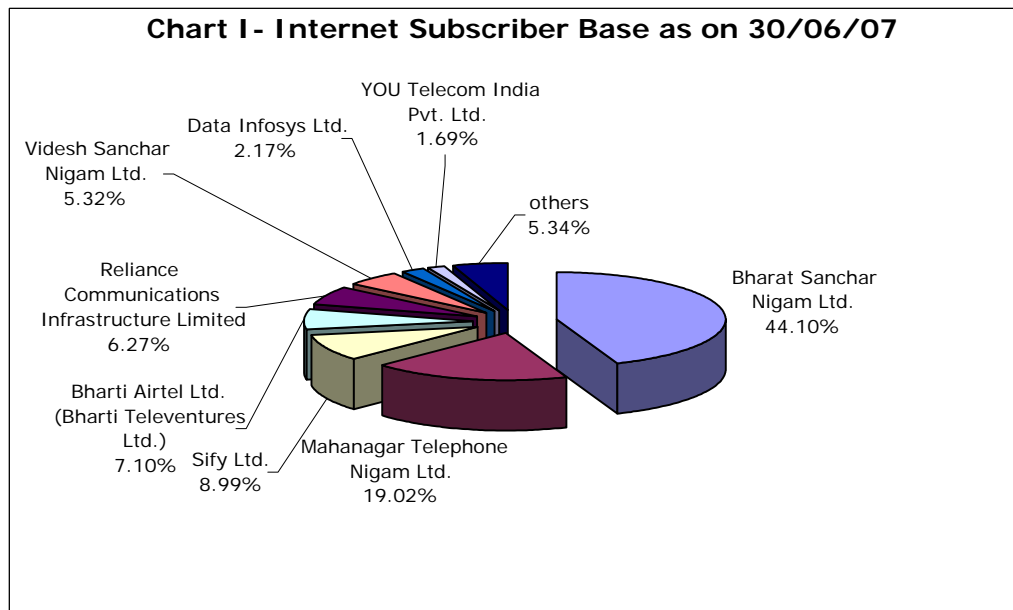
#### 3.3 Market Share: -

The growth trend indicates a slight decrease in the market share of PSU owned ISPs because of downfall in the subscriber base of M/s BSNL. During the quarter private ISPs have captured 36.88% market share as against 35.78% in the preceding quarter. The PSU owned ISPs market share has decreased from 64.22% to 63.12% at the end of June 2007

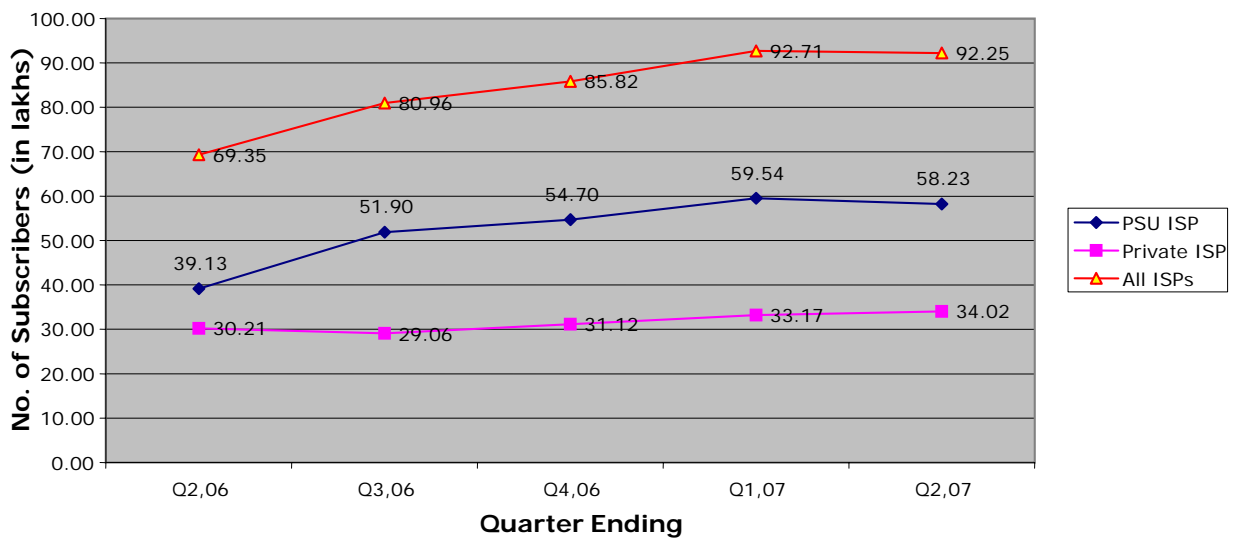
The market share of top 5 ISPs is as under:

ISP	Share in %
Bharat Sanchar Nigam Ltd.	44.10
Mahanagar Telephone Nigam Ltd.	19.02
Sify Ltd.	8.99
Bharti Airtel Ltd. (Bharti Televentures Ltd.)	7.10
Reliance Communications Infrastructure Limited	6.27

Among PSU owned ISPs; M/s BSNL has shown a decrease in the subscriber base and have 44.10% of total subscriber base. MTNL is at second position and have a market share of 19.02%.



**Chart II - Growth Trends**



### **3.4 Leased Lines Connectivity:**

The numbers of Internet Leased Line connections are 20983 for the quarter ending June 2007 as compared to 18287 for March 2007 registering an increase of 14.74%

### **3.5 Broadband Connectivity (>=256 Kbps):**

The number of Broadband subscribers (with a download speed of 256 Kbps or more) was 24.22 Lakhs for the quarter ending June 2007. Out of these 1984193 are DSL based; 264904 Cable Modem; 83521 Ethernet LAN; 20594 Fibre; 20466 Radio customers and 48541 Others. The growth rate of broadband subscribers in this quarter is 3.55% as compared to 13.85% in the previous quarter.

### **3.6 Minutes of Use (MoU) per subscriber for Dialup Internet access:**

The average dialup access minutes of usage (MoU) per subscriber/month were approximately 195 minutes as against 180 minutes during the previous quarter registering an increase of 8.33 %.

### **3.7 Average Revenue Per User (ARPU) for ISPs:**

The average revenue per user (ARPU) per month for dialup Internet subscribers was Rs. 203/- for the quarter ending June 2007.

### **3.8 International connectivity:**

The bandwidth owned by various IGSP for their ISP operations and Internet Leased lines is reported to be 32 GB for downlinking and 31 GB for uplinking. [Bandwidth has drastically increased as Reliance Communications has reported its bandwidth for the first time].

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## CHAPTER FOUR

### PERFORMANCE OF VALUE ADDED SERVICES

#### 4.1 Public Mobile Radio Trunk Service (PMRTS): -

- The subscriber base of PMRTS decreased from 31501 in March 2007 to 31046 in June 2007, registering a negative growth rate of 1.44%.
- Delhi, Bangalore, Mumbai and Chennai together account for **73.72%** of market share of the total subscribers. Delhi leads the tally with the market share of 8863 subscribers followed by Bangalore, Mumbai and Chennai with the market share of 6526, 4377 and 3121 subscribers respectively.
- M/s Arvind Mills Limited leads the tally of subscribers with a subscriber base of 9957 followed by Procall and Quick Calls India Pvt. Ltd. with a subscriber base of 8224 and 4174 respectively. There is no change in the subscriber base for PMRTS operators namely Container Movement Transport Pvt. Ltd. However, M/s United Liner Agencies India Pvt. Ltd. has registered an enormous negative growth rate of 63.51% and M/s Quick Call has also registered a negative growth rate of 8.71% in this quarter. M/s Smartalk Pvt. Ltd. has registered the highest growth rate of 34.58% in this quarter.

The subscriber base of service providers of PMRTS is given in Table 4.1.

#### 4.2 VSAT services: -

- VSAT services are being provided by 8 VSAT Service Providers.
- For this quarter, there was an addition of 1851 new subscribers. The total number of subscribers increased from 60811 in March 2007 to 62662 in June 2007, registering a growth rate of 3.04% as against the growth rate of 4.44% in quarter ended March 2007.
- M/s Hughes Communications Ltd. remained the market leader with 21137 VSAT subscribers followed by M/s HCL Comnet with 20776, Bharti Airtel Ltd. with 9352 and M/s Bharti Broadband Limited with 4860 VSAT subscribers respectively.
- M/s GNFC, M/s Essel Shyam and M/s Bharti Broadband have shown a negative growth rate of 16.67%, 1.11% and 0.04% respectively in this quarter.

The number of subscribers of each service providers along with the Market Share in terms of Percentage of Subscribers as on 30<sup>th</sup> June 2007 is given in Table 4.2.

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## CHAPTER FIVE

### QUALITY OF SERVICE (QoS) PERFORMANCE

#### 5.1 Quality of Service performance of Wireline Service Operators:

Based on Quality of Service Parameters reported by all the Wireline Service Operators for the quarter ending June 2007, the information on QoS performance is attached to this report as Annex 5.1. The license of M/s Bharti Airtel Ltd., Chennai has been merged with license of Bharti Airtel Ltd., Tamil Nadu vide DOT letter no. 842-696/2005-VAS dated 5<sup>th</sup> January 2007. Consequently, the number of licensees has decreased from 79 to 78 in this quarter.

The summary of status of the service providers who have not met the benchmarks in this quarter as compared to previous quarter is given in the following Table:

Sr. No.	Parameter	Benchmark	No. of operators not meeting the benchmark			
			March, 2007		June, 2007	
			Out of 79 In Nos.	Out of 79 In %age	Out of 78 In Nos.	Out of 78 In %age
1	<b>Provision of Telephones after registration of demand</b>	100% within 7 Days	70	88.61%	62	79.49%
2	<b>Fault incidences per 100 subs/month</b>	<5	25	31.65%	24	30.77%
3	<b>Fault repaired by next working day</b>	>90%	16	20.25%	22	28.21%
4	<b>MTTR</b>	<8Hrs	30	37.97%	28	35.90%
5	<b>Grade of Service (Junction between local exchange)</b>	2/1000	19	24.05%	19	24.36%
6	<b>Call Completion Rate (in local network)</b>	>55%	22	27.85%	17	21.79%
7	<b>Metering &amp; billing credibility - % of bills</b>	<0.1%	8	10.13%	10	12.82%
8	<b>Customer Care Service (95% of requests)</b>					
(i)	Shifts	<3 Days	32	40.51%	31	39.74%
(ii)	Closures	<24 hrs.	22	27.85%	18	23.08%
(iii)	Additional Facilities	<24 hrs.	13	16.46%	14	17.95%
9	<b>Response time to the customer for assistance</b>					
(i)	%age of calls answered (electronically)					
	Within 20 sec = 80%	80%	1	1.27%	1	1.28%
	within 40 sec = 95%	95%	6	7.59%	3	3.85%
(ii)	%age of calls answered by operator (voice to voice)					
	Within 60 sec = 80%	80%	8	10.13%	4	5.13%
	within 90 sec = 95%	95%	24	30.38%	14	17.95%
10.	<b>Time taken for refund of deposits after closures</b>	100% within 60 days	18	22.78%	18	23.08%

The parameter wise performance is given as under:

Parameter	Benchmark	Service Providers not meeting the benchmark
Provision of Telephones after registration of demand	100% within 7 Days	<b>BSNL</b> = AP (95.29), MH (88.31%), Raj (98.10%), A&N (96.16%), Assam (78.85%), Chennai (99.51%), Jharkhand (98.48%), Kerala (96.54%), Kolkatta (99.51%), NE-I (69.27%), UP-E (99.19%), UP-W (76.53%), Utttranchal (98.37%) <b>MTNL</b> = Delhi (95.70%), Mumbai (69.92%) <b>Reliance</b> = All Circles except (Tamilnadu, Haryana and UP-E) <b>Bharti</b> = All circles <b>Tata</b> = All circles <b>HFCL</b> = Punjab (99.15%) <b>Shyam</b> = Rajasthan (97.90%)
Fault incidences per 100 subs/month	<5	<b>BSNL</b> = All circles except AP, TN, A&N, Chennai, Jharkhand, Kolkatta, MP and NE-II <b>MTNL</b> = Delhi (7.00), Mumbai (9.59) <b>Bharti</b> = AP (5.13), MP (6.00), UP-E (6.70), UP-W (7.01)
Fault repaired by next working day	>90%	<b>BSNL</b> = AP (88.94%), Bihar (78.71%), Gujarat (88.25%), Chhattisgarh (85.01%), MH (89.89%), Punjab (88.90%), Raj (89.89%), Karnataka (56.29%), Assam (80.21%), HP (89.30%), Jharkhand (87.29%), J & K (88.54%), KR (85.53%), NE-I (88.46%), West Bengal (86.60%) <b>MTNL</b> = Mumbai (79.58%), Delhi (85.15%) <b>Tata</b> - AP (85.68%), Delhi (5.58%), Gujarat (81.91%), Punjab (60.23%) <b>Reliance</b> = MH (83.33%)
MTTR	<8Hrs	<b>BSNL</b> = AP (12.20), Bihar (10.20), Gujarat (12.30), Chhattisgarh (12.10), Maharashtra (9.30), Punjab (13.90), Raj (8.30), KTK (12.70), Assanm (11.30), Chennai (9.70), Jharkhand (11.10), Kerala (17.40), Kolkatta (8.90), NE - I (28.20), NE- II (10.30), UP - W (8.20), WB (11.30) <b>MTNL</b> = Mumbai (24.64) <b>Bharti</b> = Delhi (8.63 hrs), Punjab (10.10 hrs), Raj (9.90 hrs), Haryana (9.90 hrs.), Kolkatta (14.10 hrs.), UP-E (10.91 hrs.), UP-W (11.51 hrs) <b>Tata</b> = AP (13.50), Delhi (19.94), Gujarat (9.70),
Grade of Service (Junction between local exchange)	2/1000	<b>Reliance</b> = All circles except Delhi, Kerala, Kolkatta and Mumbai <b>Bharti</b> = MP (0.133), Raj (0.0256), HR (0.0667)
Call Completion Rate (in local network)	>55%	<b>BSNL</b> = MH (53.00%), Rajasthan (51.00%) A&N (47.00%), HP (7.50%), Jharkhand (52.00%), J&K (51.00%) <b>MTNL</b> = Delhi (49.23%) <b>Bharti</b> = AP (53.30%), Delhi (52.69%), MP (48.12%), Punjab (52.00%), Raj (52.00%), Tamil Nadu (54.60%), Haryana (51.00%), KTK (52.00%) UP-E (45.60%), UP -W (4.85%) <b>Reliance</b> = Data not provided by the service provider
Metering & billing credibility - % of bills	<0.1%	<b>BSNL</b> = Only 14 circles out of 26, M/s BSNL have meeting the benchmark and 12 circles among the 26 service areas has not reported their performance in this Quarter. <b>Reliance</b> = Bihar (0.102%), Kolkatta (0.103%) <b>Bharti</b> = AP (0.507%) TN (0.122%), Kerala (0.355%), <b>Tata</b> = Delhi (0.194%), Gujarat (0.393%), Maharashtra (0.131%), Mumbai (0.369%), <b>HFCL</b> = Punjab (0.13%)

<b>Customer Care Service (95% of requests)</b>		
Shifts	<b>&lt;3 Days</b>	<b>BSNL</b> = Andhra Pradesh (70.99%), Gujarat (50.44%), Chhattisgarh (89.38), MP (86.92%), Maharashtra (57.42%), Raj (91.44%), Chennai (77.79%), Jharkhand (81.59%), Kerala (73.03%), Kolkatta (76.79%), NE-I (11.53%), UP-W (52.11%) <b>MTNL</b> = Delhi (82.41%), Mumbai (33.80%) <b>Reliance</b> = MP (46.59%), KR (84.85%), Mumbai (60.68%) <b>Bharti</b> = All circles except Delhi, GJ, MP, MH, Raj, TN and Haryana. <b>Tata</b> = AP (60.98%), DL (80.00), GJ (80.27%), MH (80.61%), Punjab (53.85%), Mumbai (84.79%)
Closures	<b>&lt;24 hrs.</b>	<b>BSNL</b> = Bihar (93.22%), Maharashtra (93.37%), Assam (79.82%), NE - I (80.26%), Uttranchal (89.73%) <b>MTNL</b> = Mumbai (63.03%) <b>Bharti</b> = All Circles except Gujarat, MP, MH, & Mumbai <b>Tata</b> = Maharashtra (79.20%)
Additional Facilities	<b>&lt;24 hrs.</b>	<b>BSNL</b> = Andhra Pradesh (59.07%), Bihar (78.87%), MH (88.07%), Raj (93.31%), Assam (64.97%), HP (94.76%), Kerala (92.49%), NE-I (91.76%) <b>MTNL</b> = Mumbai (70.16%) <b>Bharti</b> = MP (94.79%) <b>Tata</b> = Delhi (72.24%), Gujarat (94.13%), Maharashtra (83.59%), Mumbai (92.35%)
<b>Response time to the customer for assistance</b>		
%age of calls answered electronically		
Within 20 sec = 80%	<b>80%</b>	<b>BSNL</b> - Uttranchal (58.07%)
Within 40 sec = 95%	<b>95%</b>	<b>BSNL</b> - Uttranchal (75.10%) <b>MTNL</b> = Mumbai (94.22%) <b>Tata</b> = Kolkatta (93.00%),
%age of calls answered by operator (voice to voice)		
Within 60 sec = 80%	<b>80%</b>	<b>BSNL</b> = PB (79.33%), Kerala (74.92%), Uttranchal (79.00%) <b>Tata</b> = Maharashtra (74.00)
within 90 sec = 95%	<b>95%</b>	<b>BSNL</b> = PB 90.00%), Uttranchal (86.33%) <b>MTNL</b> = Mumbai (88.51%) <b>Bharti</b> = UP-W (87.18%) <b>Tata</b> = All circles except (Bihar, Punjab, HR)
<b>Time taken for refund of deposits after closures</b>	<b>100% within 60 days</b>	<b>Bharti</b> = All circles <b>MTNL</b> = Mumbai (91.49%) <b>Tata</b> = Tamilnadu (92.00%), Mumbai (99.61%),



## 5.2 Quality of Service performance of Wireless Service Providers for quarter ending 30<sup>th</sup> June 2007: -

This report covers performance of 93 GSM and 42 CDMA service operators vis-à-vis the QoS benchmarks prescribed by TRAI. The summary of performance of service providers in meeting the benchmark in this quarter is given in the following table:

Sr. No.	Parameter	Bench-Mark	No. Of Operators Meeting The Benchmark			
			Quarter Ending March, 2007		Quarter Ending June, 2007	
			Out Of 135 (Nos.)	Out Of 135(%)	Out Of 135 (Nos.)	Out Of 135 (%)
1	Accumulated down time of Community isolation	<24 hrs	<b>133</b>	98.52%	<b>134</b>	99.26%
2	Call Set-Up Success Rate (Within Licensee's Own network)	>95%	<b>133</b>	98.52%	<b>134</b>	99.26%
3	Service access delay	<15 Sec	<b>131</b>	97.04%	<b>135</b>	100%
4	Blocked call rate <b>(i) SDCCH/paging channel congestion</b>	<1%	<b>129</b>	95.56%	<b>133</b>	98.52%
	<b>(ii) TCH Congestion</b>	<2%	<b>127</b>	94.07%	<b>125</b>	92.59%
5	Call drop rate	<3.0%	<b>133</b>	98.52%	<b>135</b>	100%
6	%age of Connections with good voice quality	>95%	<b>131</b>	97.04%	<b>130</b>	96.30%
7	Response time to the customer for assistance <b>%age of calls answered (electronically) within 20 seconds = 80%</b>	80%	<b>135</b>	100.00%	<b>135</b>	100%
	<b>%Age of calls answered (electronically) within 40 seconds = 95%</b>	95%	<b>133</b>	98.52%	<b>133</b>	98.52%
	<b>%Age of calls answered by operator (voice to voice); within 60 seconds = 80%</b>	80%	<b>106</b>	78.52%	<b>109</b>	80.74%
	<b>%Age of calls answered by operator (voice to voice); within 90 seconds = 95%</b>	95%	<b>90</b>	66.67%	<b>82</b>	60.74%
8	Complaints per 100 bills issued	<0.1%	<b>125</b>	92.59%	<b>129</b>	95.56%
9	% Of complaints resolved with 4 weeks	100%	<b>132</b>	97.78%	<b>133</b>	98.52%
10	Period of all Refunds/Payment due to Customers from the date of resolution of complaints As In (9) above	<4 Weeks	<b>135</b>	100.00%	<b>135</b>	100%

The parameter wise performance is given as under:

<b>Parameter</b>	<b>Bench- mark</b>	<b>Service Providers Not Meeting The Benchmark</b>
Accumulated down time of Community isolation	<24 hrs	Reliance Telecom = Orissa (164.03 hrs.)
Call Set-Up Success Rate (Within Licensee's Own network)	>95%	Bharti Airtel - Bihar (90.00%)
Blocked call rate <b>(i) SDCCH/paging channel congestion</b>	<1%	<b>Averaged figures -</b> Bharti Airtel – Bihar (6.55%), Orissa (1.37%)
<b>(ii) TCH Congestion</b>	<2%	<b>Averaged figures -</b> BSNL - Andhra Pradesh (3.16%) Reliance Telecom – Madhya Pradesh (2.07%), West Bengal (2.99%), Himachal Pradesh (2.27%), Bihar (2.34%), Orissa (2.20%), Assam (2.83%), North East (2.60%) Bharti Airtel - Bihar (2.94%), Orissa (2.20%)
Call Drop Rate	<3%	<b>All the Operators meeting this Benchmark</b>
%age of Connections with good voice quality	>95%	Bharti Airtel – Maharashtra (93.65%), Karnataka (88.72%) Reliance Telecom - Assam (92.80%), NE (92.80%) Aircel Cellular – TN (89.09%)
Response time to the customer for assistance <b>%age of calls answered (electronically) within 20 seconds = 80%</b>	80%	<b>All the Operators meeting this Benchmark</b>
<b>%Age of calls answered (electronically) within 40 seconds = 95%</b>	95%	Tata Tele - WB (91.10%), Kolkatta (92.50%)
<b>%Age of calls answered by operator (voice to voice); within 60 seconds = 80%</b>	80%	BSNL - Maharashtra (67.00%), AP (34.00%) ,MP (67.20%) Reliance Comm - Maharashtra (54.77%), Gujarat (57.92%), Karnataka (63.94%), Tamilnadu (74.62%), Kerala 68.54%), Punjab (63.73%), Haryana (57.92%), UP- W (17.99%) , UP-E (17.99%) , Rajasthan (31.23%), Madhya Pradesh (25.67%) , West Bengal (26.41%) , Himachal Pradesh (63.73%), Bihar (26.41%) , Orissa (25.67%), Delhi (42.31%) , Mumbai (49.58%), Chennai (74.62%), Kolkatta (26.41%) Idea - Gujarat (69.67%) Vodafone Essar - West Bengal (78.78%) Tata Tele - Maharashtra (73.67%), Mumbai (38.00%)
<b>%Age of calls answered by operator (voice to voice); within 90 seconds = 95%</b>	95%	BSNL – Maharashtra (78.00%), AP (43.00%), Karnataka (89.67%), MP (77.50%), Chennai (90.00%), Kolkatta (84.00%) MTNL - Delhi (91.50%) Bharti Airtel - Karnataka (94.00%), UP- W (94.02%), MP (94.74%) Reliance Comm - Maharashtra (68.72%), Gujarat (69.10%), Andhra Pradesh (86.53%), Karnataka (71.71%), Tamilnadu (80.64%), Kerala (78.94%), Punjab (76.23%), Haryana (69.10%), UP-W (22.24%), UP-E (22.24%), Rajasthan (37.39%), Madhya Pradesh (34.52%), West Bengal (33.50%), Himachal Pradesh (76.23%), Bihar (33.50%), Orissa 34.52%), Delhi (55.80%), Mumbai (66.60%), Chennai (80.64%), Kolkatta (33.50%) Idea -Maharashtra (82.21%), Gujarat (83.33%) Vodafone Essar - UP –W (90.49%), WB (87.26%), Delhi (83.52%) Tata Tele - Maharashtra (80.00%), Gujarat (87.30%), AP (86.50%), Karnataka (92.90%), Tamilnadu (92.10%), Kerala (88.80%), MP (92.60%), West Bengal (88.70%), Bihar (90.10%), Orissa (90.80%), Delhi (92.80%), Mumbai (43.67%), Chennai (92.10%) Kolkatta (88.50%) Dishnet Wireless - WB (94.00%), Bihar (93.48%),

		<b>Assam (94.22%)</b> Shyam Telelink - <b>Rajasthan (86.00%)</b>
Complaints per 100 bills issued	<0.1%	Bharti Airtel - <b>Delhi (0.11%)</b> Idea - <b>UP-E (0.238%), Rajasthan (0.74%)</b> Tata Tele - <b>Maharashtra (0.11%), Gujarat (0.17%)</b> <b>Mumbai( 0.41%)</b>
% Of complaints resolved within 4 weeks	100%	BSNL – <b>Bihar (99.88%)</b> Tata Tele - <b>Mumbai (99.79%)</b>
Period of all Refunds/Payment due to Customers from the date of resolution of complaints	<4 Weeks	<b>All the Operators meeting this Benchmark</b>

### 5.2.2 Details of Quality of service:

Detail of performance related to Network Performance, Customer help line and billing complaints are available at Annex 5.2.

### **5.3 Quality of Service Performance of Internet Service Providers for quarter ending 30<sup>th</sup> June 2007: -**

**5.3.1** The annex 5.3 indicates the Quality of Service achieved by Top 20 ISPs during the quarter: It is observed that most of the ISPs were able to meet the benchmarks, barring one or two cases.

#### **5.3.2 The observations on QoS Benchmarks are as follows:**

##### **5.3.2.1 Service Activation Time:**

All the ISPs have met the TRAI benchmark of 6 hrs.

##### **5.3.2.2 Time to Access:**

Only M/s Bharti Airtel Ltd and HFCL Infotel Ltd. have not met this benchmark in this Quarter.

##### **5.3.2.3 Probability of Accessing the ISP Node:**

All the Internet Service Operators have met this benchmark of 80% for first attempt, 90% for second attempt and 99% for third attempt in this quarter.

##### **5.3.2.4 ISP Node Unavailability:**

Only M/s Asia net Satellite Communications has not met this parameter.

##### **5.3.2.5 Grade of Service:**

ISPs are required to maintain the Grade of Service on the link connecting PSTN Node to the ISP Node as 1 in 100. M/s You Telecom India Pvt. Ltd. and VSNL have informed that information not provided by M/s BSNL.

##### **5.3.2.6 Mean Time to Restore (MTTR) :**

As per clause 1.9 schedule "C" of ISPs are required to rectify 90% of faults resulting due to subscriber complaint within 24 hours and 99% within three days. All the Operators have met this benchmark.

## 5.4 Quality of Service Performance of Broadband Service Providers for quarter ending 30<sup>th</sup> June 2007: -

There are 64 broadband service providers having subscriber base of 24.22 lakhs subscribers. Among these 64 broadband service providers 10 service providers (who are having subscriber base more than 10,000 broadband subscribers) have the total 23.67 lakhs subscribers i.e. about 98% of total broadband subscriber base. This report covers performance of these 10 broadband service providers vis-à-vis the QoS benchmarks prescribed by TRAI. Broadband Regulations came into force with effect from 1<sup>st</sup> Jan 2007 and this is the first Performance Monitoring Report (PMR) of Broadband service providers. Based on Quality of Service Parameters reported by Broadband Service Providers for the quarter ending June 2007, the information on QoS performance is attached to this report as Annex 5.4.

Following table indicates the status of compliance and non-compliance in respect of QoS benchmarks for Broadband service providers:

Sl. No.	Parameter	Benchmark	Name of Service Provider not Meeting the Benchmark
1	<b>Service Provisioning/ Activation Time</b>	100% in =< 15 working days	<b>MTNL:</b> Delhi (93.87%), Mumbai (70.37%) <b>VSNL:</b> Centre (99.00%), East (95.00%), South 1 (94.00%), South 3 (97.00%), South 4 (99.00%), West 2 (97.00%) <b>Airtel:</b> All Circles except Rajasthan and UP-W. <b>HFCL:</b> Punjab (99.83%) <b>Asianet:</b> All India (86.00%) <b>Hathway:</b> GJ (89.00%), MH (87.00%), AP (92.90%), TN (99.40%), Chennai (98.00%)
2	<b>Faults Repair/Restoration Time</b>		
	% of faults repaired by next working day	>90%	<b>MTNL:</b> Delhi 67.79%), Mumbai (74.50%) <b>VSNL:</b> Centre (87.10%), East (88.10%), North (86.90%), South 1 (86.10%), South 2 (85.90%), South 3 (75.80%), West 1 (77.10%), West 2 (81.60%) <b>Airtel:</b> Karnataka (0.91%) <b>SIFY:</b> All India (88.00%) <b>Asianet :</b> All India (58.50%) <b>Hathway:</b> GJ (81.00%), MH (82.00%), KTK (72.00%), AP (87.40%)
	% of faults repaired within 3 working day	=>99%	<b>MTNL:</b> Delhi (92.31%), Mumbai (91.20%) <b>VSNL:</b> Centre (97.10%), East (96.50%), North (95.90%), South 1 (97.30%), South 2 (97.00%), South 3 (90.00%), West 1 (92.80%), West 2 (94.80%) <b>Airtel:</b> Delhi (98.17%), UP E 98.93%), TN (98.69%), Karnataka (91.57%), Mumbai (97.00%) <b>SIFY:</b> All India (95.00%) <b>Asianet :</b> All India (86.27%) <b>Hathway:</b> GJ (92.00%), MH (93.00%), KTK (97.00%), AP (98.70%), Chennai (93.40%)
3	<b>Billing Performance</b>		
	%age of bills disputed	<2%	<b>VSNL:</b> South 3 (4.74%), West 1 (2.48%) <b>Hathway:</b> KTK (8.18%), AP (2.66%), Chennai (2.20%)

	%age of billing complaints resolved within 4 weeks	100% within 4 weeks	<b>MTNL:</b> Delhi (99.63%) <b>HFCL:</b> Punjab (97.00%) <b>YouTelecom :</b> All India (98.46%) <b>Asiannet:</b> All India (69.33%) <b>Hathway:</b> Delhi (99.00%)
	%age of cases to whom refund of deposits is made within 60 days of closures	100% within 60 days	<b>MTNL:</b> Mumbai (0.00%) <b>Airtel:</b> Delhi (5.00%), Haryana (3.00%), Raj (1.00%), Punjab (15.00%), Kolkatta (0.00%), UP-W (5.00%), UP-E (0.00%), TN (98.00%), AP (49.00%), KTK (76.00%), Kerala (80.00%), Mumbai (99.00%) & MP (25.00%) <b>You Telecom:</b> All India (98.02%) <b>Asianet:</b> All India (98.47%) <b>Hathway:</b> MH (98.00%) & KTK (85.00%)
<b>4</b>	<b>Response Time to the Customer for assistance</b>		
	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	<b>MTNL:</b> Mumbai (44.67%)
	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	<b>Airtel:</b> Delhi (75.57%) <b>Sify:</b> All India (67.00%) <b>Hathway:</b> GJ (75.00%)
<b>5</b>	<b>Bandwidth utilisation/throughput</b>		
	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)		<b>Airtel:</b> Delhi (1 Link), Karnatka (12 Links), TN (5 Links), AP (2 Links). <b>Sify:</b> All India (66 Links)
	No. of Upstream links for International connectivity having bandwidth utilisation >90% during peak hours (TCBH)		<b>BSNL:</b> All India (5 out of 59 Links) <b>MTNL:</b> Delhi (6 Links), Mumbai (2 Links) <b>Airtel :</b> (1 Link) <b>Asianet:</b> All India (7 Links) <b>HFCL:</b> Punjab (1 Link) <b>Hathway:</b> Chennai (1 Link )
	% International bandwidth utilization during peak hours (TCBH) (Enclose MRTG)	<90%	<b>MTNL:</b> Mumbai (92.35%) and Delhi (93.00%) <b>Airtel:</b> MP (96.15%) <b>HFCL:</b> Punjab (95.00%)
	Broadband Connection Speed available (download) from ISP node to user	>80%	<b>All the service Providers have met this benchmark</b>
<b>6</b>	<b>Service Availability/Uptime (for all users) in %age</b>	>90% Quarter Ending June 07 >98% w.e.f. Quarter Ending Sept.07	
	Service availability /uptime (for all users) in %age	>90%	<b>All the service Providers have met this benchmark</b>
<b>7</b>	<b>Packet loss (for wired broadband access) in %age</b>	<1%	<b>Hathway:</b> Gujarat, Maharashtra, Delhi, Punjab, Haryana, UP, Tamilnadu, Chennai. Reported data 2% for all these circles.
<b>8</b>	<b>Network latency (for wired broadband access)</b>		
	User reference point at POP/ISP Gateway node to IGSP/NIXI	<120 ms	<b>All the service Providers have met this benchmark</b>

	User reference point at ISP Gateway node to International nearest NAP port abroad (terrestrial)	<350 ms	<b>All the service Providers have met this benchmark</b>
	User reference point at ISP Gateway node to International nearest NAP port abroad (satellite)	<800 ms	The parameter is applicable only for Asianet who has met this benchmark

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## CHAPTER SIX

### PERFORMANCE OF CABLE TV, DTH AND RADIO BROADCASTING SERVICES

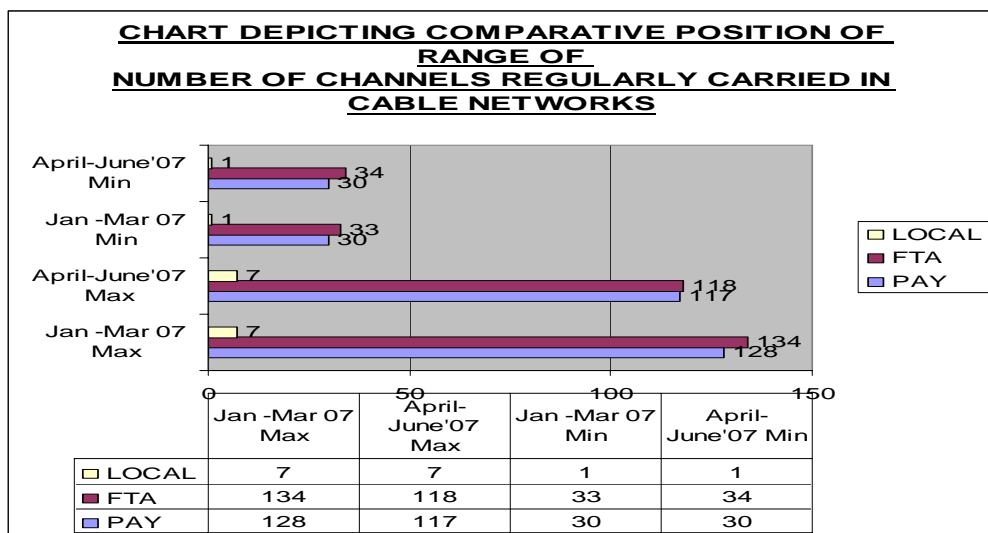
#### 6.1 This chapter contains:

- a) Range of number of channels Pay, FTA, Local regularly carried on network at the end of quarter ending 31<sup>st</sup> March 2007 and quarter ending 30<sup>th</sup> June 2007. Refer Table 6.1 (a) & 6.1(b).
- b) Details of new pay channels / FTA Channels converted into Pay Channels after 26.12.2003 are at Table 6.2. The table provides information on New introduced Pay Channels and Free to Air (FTA) channels converted into Pay Channels after 26.12.2003 and this indicates that there are 63 new pay channels/ converted FTA Channels to pay channels that have been launched since 26.12.2003. This is based on information reported by broadcasters in terms of clause 4 of the TRAI's Tariff Order of 1.10.2004 on broadcasting and cable services.
- c) Information on total Advertisement Revenue of FM Radio Stations is compiled in table 6.3.
- d) For details of number of applications received, letters of intent, number of Licenses issued in respect of Teleport service providers refer to Table 6.4.
- e) For details of number of applications received, number of Licenses issued for DTH service providers refer to Table 6.5.

#### 6.2 Highlights

1.1 The figures of **Maximum and Minimum** are based on number of channels (analogue and /or digital) reported across different networks of different reporting service providers having different combinations of pay, FTA and Local channels. Therefore, the sum of number of pay / FTA/Local channels column will not add to give figures in the total column.

**Chart No. 1**

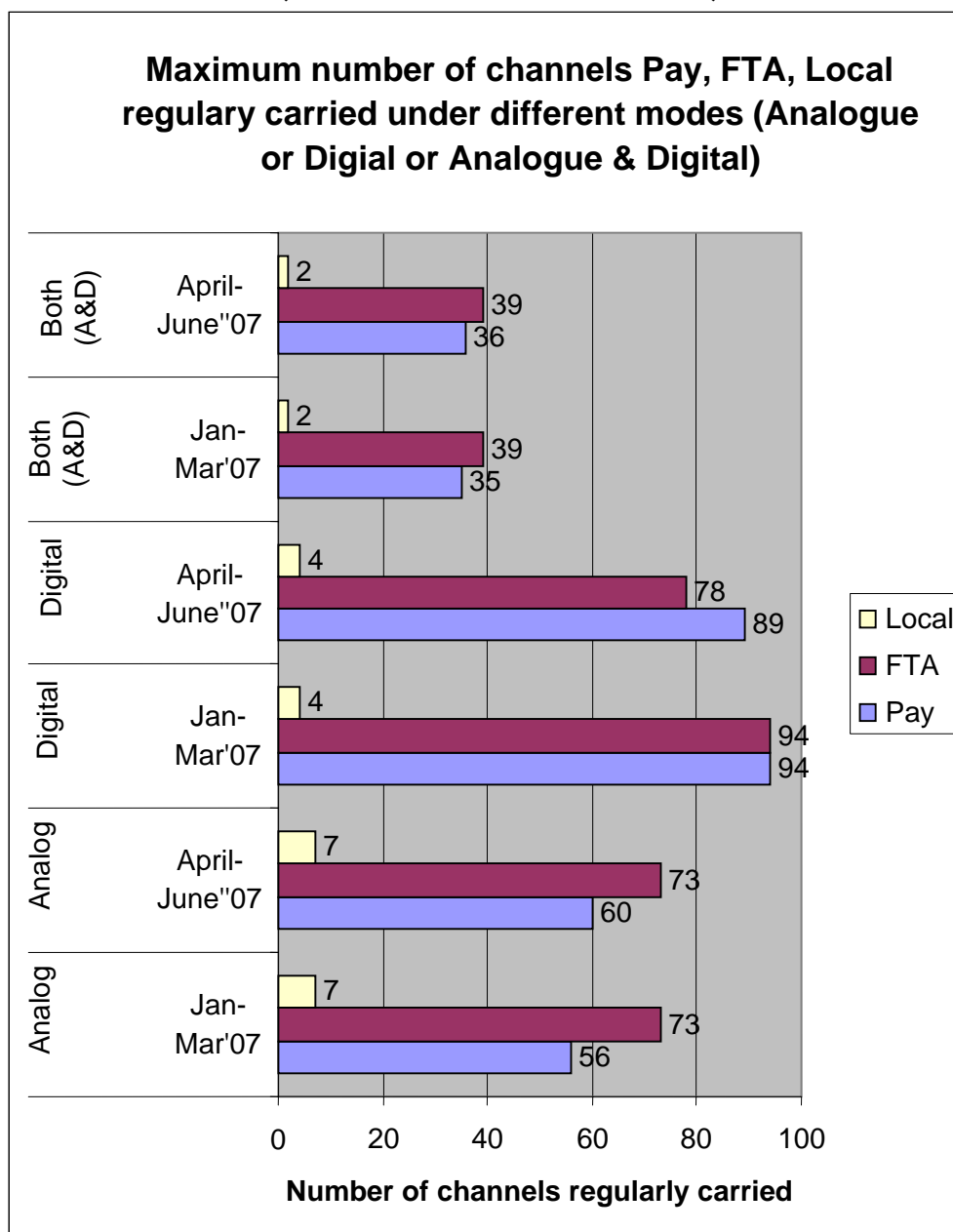




1.2 The figures of **Maximum and Minimum** are based on number of channels (analogue and /or digital) reported across different networks of different reporting service providers having different combinations of pay, FTA and Local channels. Therefore, figures in various cells above across a particular row as a combination may not be indicative size of network etc.

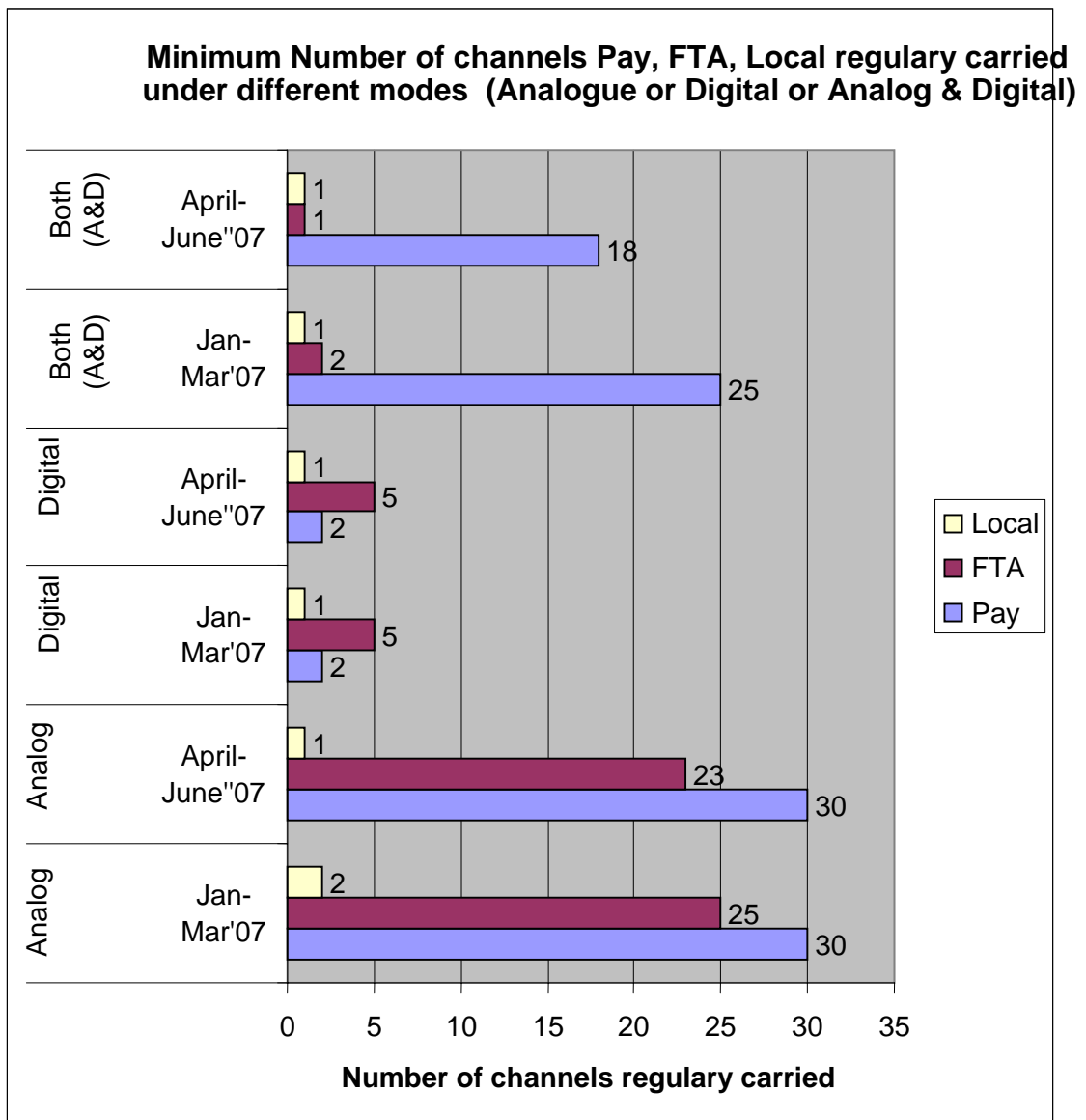
a)

**Chart No. 2  
(Maximum no. of channels)**



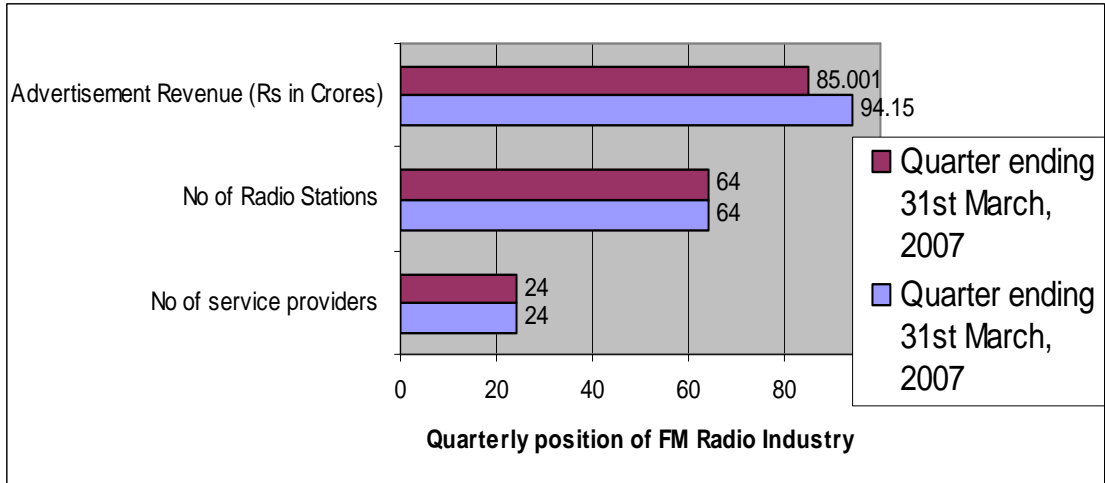
b)

**Chart No. 3**  
**(Minimum no. of channels)**



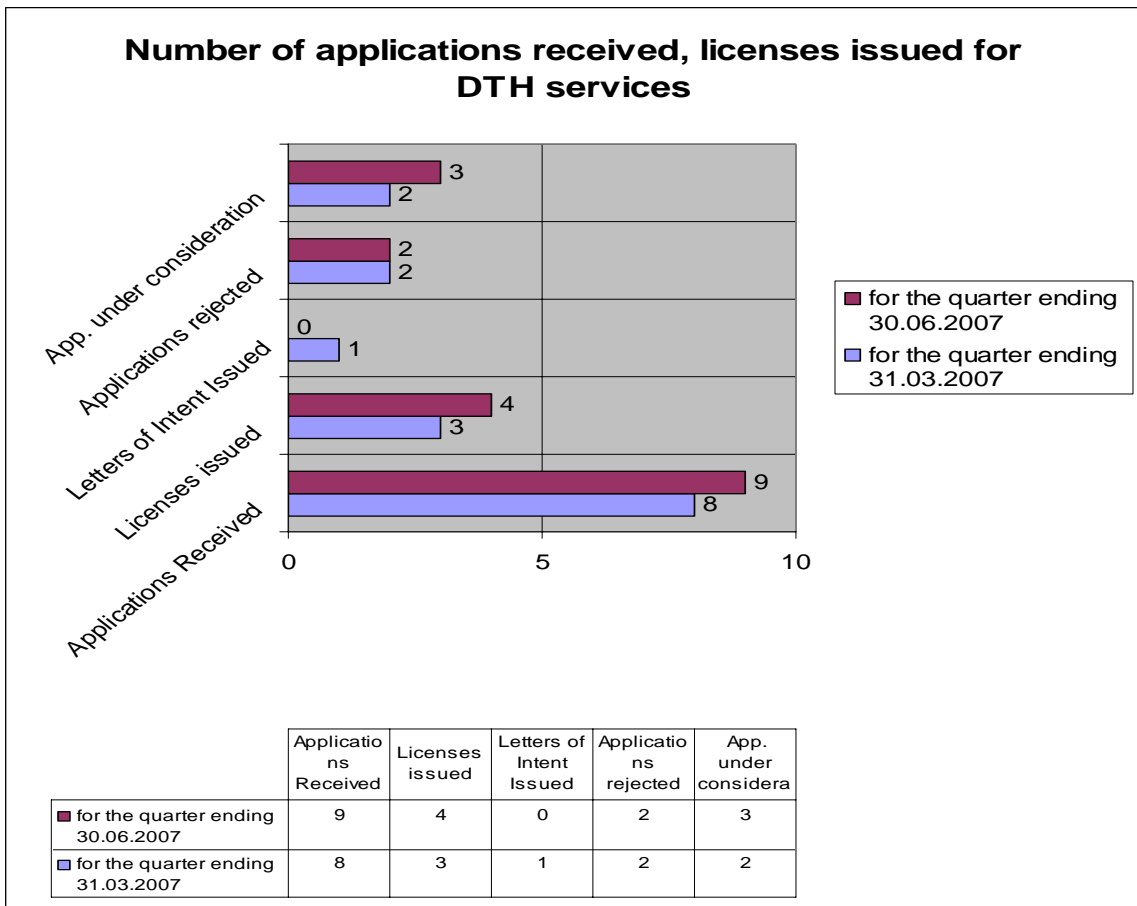
1.3 The total Advertisement Revenue up to the quarter ending March' 07 of 23 FM Radio Service Providers and quarter ending June 2007 of 23 FM Radio Service Providers who have given their reports is given in the chart below:

**Chart No. 4**  
**The Total Advertisement Revenue**



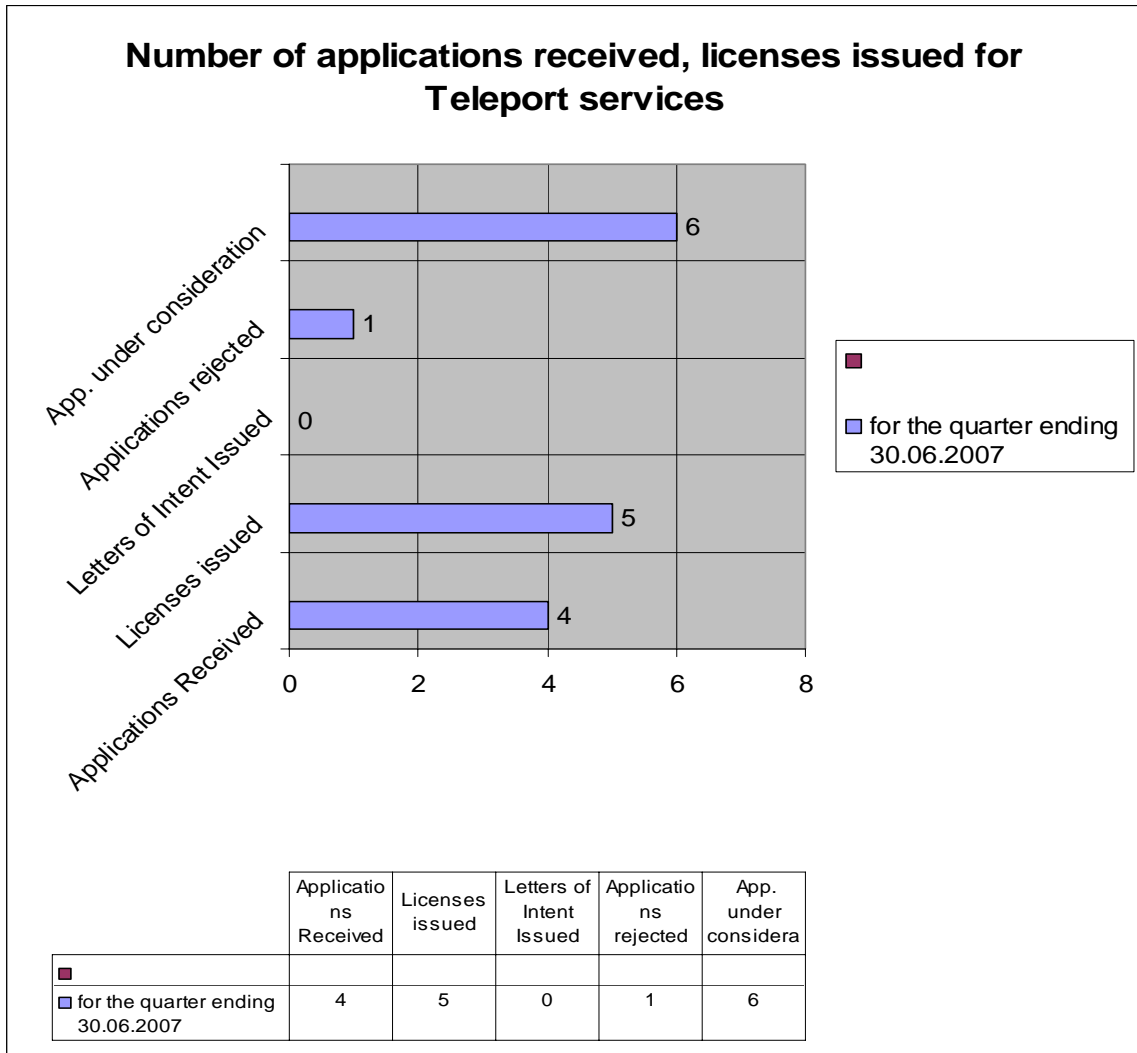
1.4 Details of number of applications received, number of Licenses issued for DTH services are given in the chart below:-

**Chart No. 5**



1.5 Details of number of applications received, number of Licenses issued for Teleport services are given in the chart below: -

**Chart No. 6**



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## CHAPTER SEVEN

### FINANCIAL DETAILS OF TELECOM SERVICE SECTOR

#### 7.1 Revenue of Telecom Service Sector

- The Total Revenue of Telecom Service Sector<sup>1</sup> has gone up from Rs.86719.55 Crore in 2005-06 to Rs. 105318.63 Crore in 2006-07 thereby showing a growth of 21.45% over the pervious year.
- The total revenue of the public sector companies for 2006-07 was Rs. 45472.85 Crore against Rs. 45232.98 Crore in 2005-06, showing a marginal increase by about 0.5%.
- The total revenue contribution from the private sector for 2006-07 was Rs. 59845.78 Crore against Rs.41486.57 Crore in 2005-06. The revenue for the private sector companies has increased very sharply and shows a very handsome growth of 44.3% over the previous year.
- The revenue contribution from the public sector telecom companies was 43% (pervious year 52%) and that from private sector companies was 57% (pervious year 48%) in the 2006-07.

<b>Total Revenue of Telecom service Providers</b>		
	<b>(Rs. in Crore)</b>	
<b>Particulars</b>	<b>2005-06</b>	<b>2006-07</b>
Total Revenue	86719.55	105318.63
Share of public sector companies	45232.98	45472.85
Share of private sector companies	41486.57	59845.78
Contribution of public sector companies	52%	43%
Contribution of Pvt. sector Companies	48%	57%
	100%	100%
Source: Operators Unaudited Data		

#### 7.2 EBITDA of Telecom Service Sector

- The EBITDA represents the Profit (Earning) before Interest, Tax and Depreciation & Amortization.
- The EBITDA for 2006-07 was Rs. 39167.82 Crore against Rs 30137.92 Crores for 2005-06 i.e. an increase of 30% over the previous year.
- The annual growth of EBITDA for PSUs for 2006-07 was only 4.7% against 71.3% for Private telecom service providers.

<sup>1</sup> Total Revenue includes revenue from Access and Long distance service providers excluding small standalone ISPs and VSAT etc.

### **EBITDA of Indian Telecom Service Sector**

<b>EBITDA</b>	<b>(Rs. Crores)</b>	
	<b>2005-06</b>	<b>2006-07</b>
Overall EBITDA	30137.92	39167.82
EBITDA of public sector companies	18709.12	19586.87
EBITDA of Pvt. sector companies	11428.80	19580.95
<i>Source: Operators Unaudited Data</i>		

#### **7.3 Capital Employed (CE) and Return on Capital Employed (RoCE)**

- The Capital Employed represents the [funds](#) necessary for a [business](#) to function or the funds deployed to operate the business.
- The capital employed has increased from Rs. 170087 Crore in 2005-06 to Rs. 189834 Crore in 2006-07 i.e. capital employed has increased by over 12%.
- The capital employed by public sector companies at the end of 2006-07 was Rs.103071 Crore against Rs. 104231 Crore at the end of 2005-06 i.e. public sector capital employed has decreased by about 1%.
- The capital employed by private sector at the end of 2006-07 was Rs.86763 Crore against Rs.65857 Crore at the end of 2005-06 i.e. private sector capital employed has increased by about 32%.
- The Return on the average Capital Employed for 2006-07 for the telecom service industry was 10.64%. Return on capital employed of PSUs for this period was 9.51% against 12% of the private sector.

#### **7.4 Capital investment (Gross Block) of Telecom Services Sector**

- The capital investment (Gross Block) of the telecom services sector has reached Rs. 234687 Crore at the end of financial year 2006-07 from Rs. 200666 Crore at the end of financial year 2005-06 i.e. capital investment has increased by over 17%.
- The additional capital investment made by the telecom service industry during 2006-07 was around Rs. 34021 Crore.
- The capital investment made by the private sector during 2006-07 was Rs. 28434 Crore. The capital investment of the PSUs during this period was Rs. 5587 crore.

### Capital Investment (Gross Block) of Telecom Service Sector

Particulars	2005-06	2006-07	Additions in 2006-07
Gross Block (Rs in Crore )	200666.1	234687.3	34021.2
Gross Block (public sector companies)	64%	57%	4.38%
Gross Block (private sector companies)	36%	43%	38.91%

Source: Operators Unaudited Data

### 7.5 Telecom sector share in GDP (%)

The Indian Telecom Service industry is contributing 2.83% to the total GDP in 2006-07 as against 2.71% in 2005-06. The year- wise telecom service sector share in GDP is given below:

<b>Telecom sector Share in GDP</b>		
<b>(Rs in thousand Crore)</b>		
<b>Particulars</b>	<b>2005-06</b>	<b>2006-07 *</b>
<b>Gross Domestic Product (at factor cost)</b>		
At Current prices	3200.6	3717.5
At 1999-2000 Prices	2586.6	2844.0
Total Telecom Revenue	86.72	105.32
	<b>(in Percentage )</b>	
Share of Telecom sector to GDP	2.71%	2.83%

Source: Economic Survey 2006-07 ( \*Advance Estimates )

### 7.6 Foreign Direct Investment (FDI) in Telecom

Foreign Investment is a major source of funding in the Indian Telecom Industry. Attracting the Foreign Direct Investment is the top priority of the Government of India in the recent years. The year-wise statistics of FDI in Telecom Industry and its share in total FDI Inflow in India is given in the table below:

## Foreign Direct Investment Inflow

(Rs. in Crore)

Year	Year-wise FDI Inflow			Cumulative FDI Inflow		
	Total FDI Inflow	FDI Inflow in Telecom Sector	% of Telecom FDI to Total FDI	Cumulative FDI	Cumulative FDI for Telecom Sector	% of FDI in the Telecom Sector
2003-04	12117	532	4.39%	119660	10725	8.96%
2004-05	17138	588	3.43%	136798	11313	8.27%
2005-06	24613	3023	12.28%	161411	14336	8.88%
2006-07	70630	2355	3.33%	232041	16691	7.19%

*Source: DIPP*

### 7.7 Employment in telecom sector and subscribers per employee

- The direct employment generated by the telecom service sector is about 432771 in 2006-07 as against 429400 employees in 2005-06.
- The PSUs have employed about 85% of the total direct employment.
- For the year ending March 2007, one employee has been employed for every 193 subscribers in of public sector companies whereas for 2110 subscribers in private sector companies.

<b>Employment Generation in Telecom sector</b>		
<b>Particulars</b>	<b>2005-06</b>	<b>2006-07</b>
Public sector companies	60450000	71390000
Pvt. sector companies	79870000	134470000
<b>Total Subscriber</b>	<b>140320000</b>	<b>205860000</b>
Public sector companies	382105	369035
Pvt. sector companies	47295	63736
<b>Total Employee of Telecom companies</b>	<b>429400</b>	<b>432771</b>
<b>Subscriber per Employee at year end</b>		
Public sector companies	158	193
Pvt. sector companies	1688	2110

*Source: Operators Unaudited Data*

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**Table 1.1****Subscriber Base of Wireline Services**

Sl.	Service providers	Area of Operation	31st March 2007			30th June 2007		
			Urban	Rural	Total	Urban	Rural	Total
1	BSNL	All India	21189527	12549077	<b>33738604</b>	20654169	12258190	<b>32912359</b>
2	MTNL	Delhi & Mumbai	3725146	0	<b>3725146</b>	3669172	0	<b>3669172</b>
3	Bharti Airtel Ltd	AP, MP, Delhi, Haryana, TN (including Chennai), Karnataka, Kerala, Gujarat, Punjab, Maharashtra, Mumbai, U.P. (W) including Uttaranchal, West Bengal and Kolkata	1871387	0	<b>1871387</b>	1972259	0	<b>1972259</b>
4	Tata Teleservices (Maharashtra) Ltd.	Maharashtra & Mumbai	295852	30	<b>295882</b>	314678	30	<b>314708</b>
5	Tata Teleservices Ltd	AP, TN, Chennai, Karnataka, Gujarat, Delhi, Bihar, Orissa, Rajasthan, Punjab, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, U.P. (E), U.P (W) including Uttaranchal, West Bengal and Kolkata	231374	0	<b>231374</b>	261083	0	<b>261083</b>
6	HFCL Infotel Ltd	Punjab	168646	0	<b>168646</b>	164058	0	<b>164058</b>
7	Shyam Telelink Ltd	Rajasthan	141198	12996	<b>154194</b>	142079	13095	<b>155174</b>
8	Reliance Communication Ltd	AP, Bihar, Delhi, Gujarat, Haryana, HP, KN, Kerala, MP, MH, Mumbai, Orissa, Punjab, Rajasthan, TN Chennai UP(E), UP(W), WB, Kolkata	567892	287	<b>568179</b>	638947	287	<b>639234</b>
<b>Grand Total</b>			<b>28191022</b>	<b>12562390</b>	<b>40753412</b>	<b>27816445</b>	<b>12271602</b>	<b>40088047</b>

**Table 1.2****Details of Public Call Offices (PCO)**

<b>Public Call Office</b>				
<b>S.No</b>	<b>Service Providers</b>	<b>Area of Operation</b>	<b>PCOs as on 30.06.07</b>	<b>PCOs added during the quarter ending 30.06.07</b>
1	BSNL	All India	2070994	-38389
2	MTNL	Delhi & Mumbai	258459	-1618
3	Bharti Airtel Ltd.	Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Punjab, Rajasthan, Tamilnadu (included Chennai circle), UP-East, UP-West (including Uttaranchal) and West Bengal.	215602	-7346
4	HFCL Infotel Ltd.	Punjab	42691	-287
5	TATA Teleservices Ltd.	Maharashtra, Mumbai , AP, TN, Chennai, Karnataka, Gujarat, Delhi, Bihar, Orissa, Rajasthan, Punjab, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, U.P. (E), U.P (W) including Uttaranchal, West Bengal and Kolkata	1308983	46597
6	Reliance Communications Ltd.	Karnataka, Gujarat, Delhi, Bihar, Orissa, Rajasthan, Punjab, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, U.P. (E), U.P (W) including Uttaranchal, West Bengal and Kolkata	1663413	55547
7	Shyam Telelink Ltd.	Rajasthan	40672	-1026
	<b>TOTAL</b>		<b>5600814</b>	<b>53478</b>

**Table 1.3****Details of Village Public Telephones (VPT)**

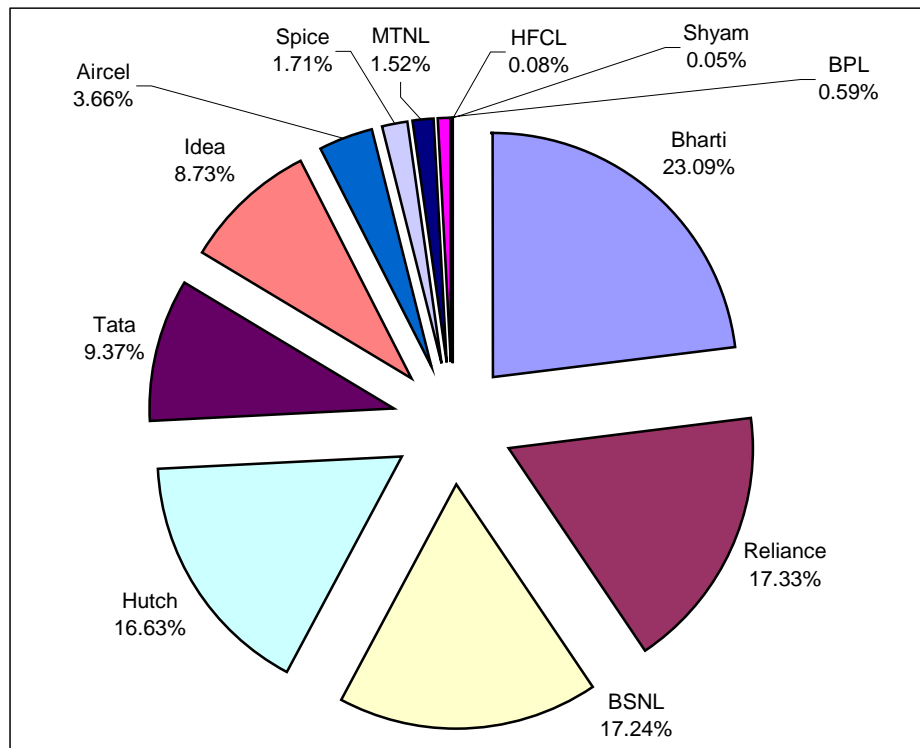
<b>Village Public Telephones</b>				
<b>S.No</b>	<b>Service Providers</b>	<b>Area of Operation</b>	<b>VPTs as on 30.06.07</b>	<b>Achievement during the Qtr. ending 30.06.07</b>
1	BSNL	All India	561597	8964
2	MTNL	Delhi & Mumbai	0	0
3	Bharti Airtel Ltd.	Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Punjab, Rajasthan, Tamilnadu (included Chennai circle), UP-East, UP-West (including Uttaranchal) and West Bengal.	0	0
4	HFCL Infotel Ltd.	Punjab	373	-44
5	Tata Teleservices (Maharashtra) Ltd.	Maharashtra & Mumbai	2542	0
6	TATA Teleservices Ltd.	AP, TN, Chennai, Karnataka, Gujarat, Delhi, Bihar, Orissa, Rajasthan, Punjab, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, U.P. (E), U.P (W) including Uttaranchal, West Bengal and Kolkata	1360	2
7	Reliance Communications Ltd.	AP,Bihar,Delhi,Gujarat,Haryana,HP, Karnataka, Kerala, MP, Maharashtra,Mumbai Orissa,Punjab, Rajasthan, TN, Chennai, UP(E), UP(W),West Bengal Kolkata	4115	0
8	Shyam Telelink Ltd.	Rajasthan	3010	0
<b>TOTAL</b>			<b>572997</b>	<b>8922</b>

**Table 2.1**

**Subscriber Base of Wireless Operators**

SLNO	Wireless Group (with no. of circles)	Subscribers as on June - 07 (in millions)	Rural Subscribers (in millions)	Percentage of rural subscribers	Market Share (in %age)	Technology Used
1	Bharti Group(23)	42.70	8.11	19.00	23.09%	GSM
2	Reliance Group(23)	31.88	4.42	13.86	17.33%	GSM & CDMA
3	BSNL(21)	32.05	9.93	30.97	17.24%	GSM & CDMA
4	Vodafone/Hutchison (Group) (16)	30.75	8.40	27.31	16.63%	GSM
5	Tata (20)	17.32	0.98	5.65	9.37%	CDMA
6	Idea Group(11)	16.13	3.31	20.49	8.73%	GSM
7	Aircel Group(9)	6.77	1.89	27.92	3.66%	GSM
8	Spice (2)	3.17	0.37	11.66	1.71%	GSM & CDMA
9	MTNL (2)	2.81	0.00	0.00	1.52%	GSM
10	BPL(1)	1.07	0.00	0.00	0.59%	GSM
11	HFCL (1)	0.15	0.003	1.95	0.08%	CDMA
12	Shyam(1)	0.10	0.002	1.95	0.05%	CDMA
	<b>Total</b>	<b>184.92</b>	<b>37.40</b>	<b>20.22</b>	<b>100.00</b>	

**Market Share of Wireless Service Providers as on 30.06.07**



**Table 2.2****Market Share of Wireless (GSM + CDMA) Operators**

a) The market share of different GSM Service Providers is given below:

<b>GSM Group</b>	<b>No of GSM Subscribers (in Millions)</b>	<b>GSM Market Share (in %age)</b>
Bharti	42.70	31.45
Vodafone/Hutchison	30.75	22.65
BSNL	28.42	20.93
Idea	16.13	11.88
Aircel	6.77	4.99
Reliance	4.15	3.05
Spice	3.17	2.33
MTNL	2.61	1.92
BPL	1.09	0.80
<b>Total</b>	<b>135.79</b>	<b>100.00</b>

b) The market share of different CDMA Service Providers is given below:

<b>Company Name</b>	<b>No of CDMA Subscribers (in Millions)</b>	<b>CDMA Market Share (in %age)</b>
Reliance Communications	27.73	56.44
Tata Teleservices	17.32	35.25
BSNL	3.63	7.39
MTNL	0.20	0.41
HFCL	0.15	0.31
Shyam Telelink	0.10	0.20
<b>Total</b>	<b>49.13</b>	<b>100.00</b>

**Table 2.3**

**Growth Pattern of Wireless Subscribers Base**

**Wireless Subscriber Base:**

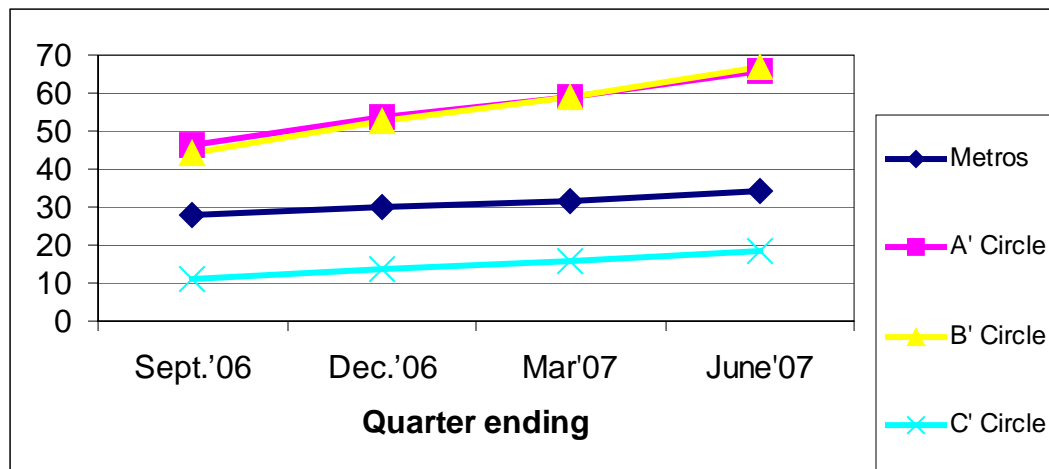
The market share distribution among Metros & Circles A to C is given below:

<b>Circle</b>	<b>No. of Subscribers</b>	<b>Market Share</b>
Metros	34.06 million	18.42%
Circles 'A'	65.92 million	36.65%
Circles 'B'	66.63 million	36.03%
Circles 'C'	18.31 million	9.90%

The details of subscriber base in various categories of service areas for the last four quarters are given below:

<b>Category</b>	<b>No. of Service Areas</b>	<b>Sept.'06</b>	<b>Dec.'06</b>	<b>Mar'07</b>	<b>June'07</b>	<b>% Growth in March'07</b>
		Figures (in millions)				
Metros	4	27.85	30.20	31.63	33.06	7.70
A' Circle	5	46.25	53.50	58.93	65.92	11.86
B' Circle	8	44.25	52.45	58.81	66.63	13.29
C' Circle	6	11.18	13.48	15.74	18.31	16.34

**Growth Trend of Wireless Subscribers**



**Table 3.1****Subscribers Base of Internet Services**

Sl.	Name of the Service Provider	Category	Geographical area of operation	Quarter ending Mar-07	Quarter ending Jun-07	% Growth
1	Bharat Sanchar Nigam Ltd.	A	All India	4191173	4068349	-2.93
2	Mahanagar Telephone Nigam Ltd.	B	Delhi & Mumbai	1762842	1754168	-0.49
3	Sify Ltd.	A	All India	823777	828872	0.62
4	Bharti Airtel Ltd. (Bharti Televentures Ltd.)	A	All India	633872	654995	3.33
5	Reliance Communications Infrastructure Limited	A	All India	562161	578421	2.89
6	Videsh Sanchar Nigam Ltd.	A	All India	483511	490601	1.47
7	Data Infosys Ltd.	A	All India	198927	199937	0.51
8	YOU Telecom India Pvt. Ltd.	A	All India	141282	155655	10.17
9	Hathway Cable & Datacom Pvt. Ltd.	A	All India	122504	140636	14.80
10	Asianet Satellite Communications Ltd.	B	Kerala	40938	44534	8.78
11	HCL Infinet Ltd.	A	All India	42015	42101	0.20
12	HFCL Infotel Ltd.	B	Punjab Telecom Circle	33606	37625	11.96
13	Shyam Internet Services Ltd	B	Rajasthan	25505	25085	-1.65
14	Punj Lloyd (Spectra Net Ltd.)	A	All India	19894	22734	14.28
15	Beam Cable System Pvt. Ltd.	B	Hyderabad	17744	18372	3.54
16	Hughes Communications India Ltd.	A	All India	18200	18315	0.63
17	Fascel Ltd.	B	Gujarat	18001	18001	0.00
18	Tata Teleservices (Maharashtra) Ltd. (Hughes Telecom)	A	All India	11124	13070	17.49
19	Broadband Pacenet (I) Pvt. Ltd.	B	Mumbai	12263	12496	1.90
20	Icenet.net Limited	B	Gujarat	20642	11115	-46.15
21	VSNL Internet Services Ltd. (DIL Internet Ltd.(Primus Telecommunications))	A	All India	10186	9345	-8.26
22	Alliance Broadband Services Pvt. Ltd.	B	Kolkata	7175	8464	17.97
23	West Bengal Electronics Industry Development Corp. Ltd.	B	Kolkata, WB	6610	6624	0.21
24	In2cable (I) Ltd.	A	All India	5643	6135	8.72
25	Trikon Electronics Pvt. Ltd.	B	Mumbai	5340	5509	3.16
26	Trak Online Net India Pvt.Ltd	A	All India	4518	4924	8.99
27	Swiftmail Communications Ltd.	A	All India	3850	4772	23.95
28	WWW Communications Ltd.	B	Delhi	15291	4530	-70.37
29	Pioneer Online Pvt. Ltd.	B	Andhra Pradesh		4372	
30	Rajesh Multi Channel Pvt. Ltd.	B	Mumbai	3497	3517	0.57
31	Myguru Online ltd.	B	Andhra Pradesh	564	2894	413.12
32	HCL Comnet Systems & Services Ltd.	A	All India	2647	2648	0.04
33	Value Healthcare Ltd.	B	Mumbai	1769	2266	28.09
34	Geocity Network Solutions Pvt. Ltd.	B	Delhi	2129	2179	2.35
35	Hathway Bhawani Cabletel & Datacom Pvt. Ltd.	B	Mumbai	1779	1930	8.49

36	Digital2Virtual ISP Pvt. Ltd.	B	Gujarat	2178	1764	-19.01
37	Bhupati Hotels Pvt. Ltd.	C	Visakhapatnam	1084	1382	27.49
38	Sab Industires Ltd. (Sab Infotech)	B,C	Punjab, Karnal, Ambala	1144	1079	-5.68
39	Space Online Ltd.	B	Gujarat		1068	
40	n-Logue Communications Pvt. Ltd.	A	All India	1061	1061	0.00
41	Ortel Communication Ltd.	B	Orissa		1024	
42	Broadlane Networks Pvt. Ltd.	C	Dombivli, Maharastra	962	957	-0.52
43	ERNET India	A	All India	922	924	0.22
44	Blazenet Ltd.	B	Gujarat	3249	834	-74.33
45	CJM Consultancy Services Pvt. Ltd.	B	Delhi	727	788	8.39
46	Sanchar Telenetwork Pvt. Ltd.	C	Bhavnagar SSA	846	786	-7.09
47	IOL Broadband Ltd. (India Online)	B	Mumbai	0	745	
48	iPath India Pvt. Ltd.	C	Ernakulam SSA	684	684	0.00
49	Dishnet Wireless Ltd.	A	All India	596	611	2.52
50	ISP Solutions India Pvt. Ltd.	C	Coimbatore SSA	538	588	9.29
51	Southern Online Bio Technologies Ltd.	B	Andhra Pradesh	546	562	2.93
52	NetMagic Solutions(P) Ltd.	B	Mumbai	373	409	9.65
53	Micky Online Pvt Ltd.	C	Moradabad	450	400	-11.11
54	Rida Communication Pvt. Ltd.	C	Aligarh SSA	378	382	1.06
55	Bhiwani Communications Pvt. Ltd.	C	Rohtak	216	258	19.44
56	DelDSL Internet Pvt. Ltd.	B&C	Gurgaon, Delhi		233	
57	Atria Convergence Technologies Pvt. Ltd.	B	Karnataka	188	205	9.04
58	Pacific Internet India Pvt. Ltd.	A	All India		199	
59	Verizon Communications India Pvt. Ltd. (Worldcom Communications )	A	All India	182	189	3.85
60	Karuturi Networks Ltd.	B	Karnataka	188	187	-0.53
61	Vainavi Industries Ltd. (MAC Info Pvt. Ltd.)	B	Andhra Pradesh	205	180	-12.20
62	Primenet Global Ltd.	A	All India	263	179	-31.94
63	BT Global Communications India Pvt. Ltd. (i2i Enterprise Ltd.)	A	All India	304	163	-46.38
64	Mynet Services India Pvt. Ltd.	C	Tamil Nadu SSA	140	147	5.00
65	Descon Ltd.	B&C	Kolkata & Burdwan District	162	137	-15.43
66	Reach Network India Pvt. Ltd.	A	All India	130	128	-1.54
67	Guj Info Petro Ltd. (GIPL)	A	Gujarat	105	108	2.86
68	Gateway Systems (I) Ltd.	A	All India	110	103	-6.36
69	Online Media Solutions Ltd.	B	Andhra Pradesh		100	
70	Amber Online Services Ltd.	B	Andhra Pradesh		92	
71	City Online Services Ltd.	B	Andhra Pradesh & Karnataka		90	
72	CJ Online Pvt. Ltd.	C	Ghaziabad	118	80	-32.20
73	Estel Communications Pvt. Ltd.	A	All India	98	76	-22.45
74	Harisree Cable Net Pvt. Ltd.	C	Kanpur SSA	65	64	-1.54
75	Tata Internet Services Ltd.	A	All India	84	54	-35.71
76	Nextgen Communications Ltd (RPG Infotech Ltd. (Sprint RPG India))	A	All India	48	49	2.08
77	Swastik Netvisiion Telecom P. Ltd.	B	Gujarat	51	46	-9.80



78	Bhaskar Multinet Ltd.	C	Jaipur	152	42	-72.37
79	Conjoinix Technologies Pvt Ltd	C	J&K, Chandigarh	30	28	-6.67
80	Nettlinx Ltd.	B	Andhra Pradesh		28	
81	L&T Finance Ltd. (L&T Netcom Ltd.)	A	All India	25	25	0.00
82	Nelco Ltd.	A	All India	24	22	-8.33
83	Direct Internet Ltd.	B&C	Delhi, Gurgaon, Noida	24	19	-20.83
84	Virtela India Pvt. Ltd.	B&C	Mumbai, Bangalore, Gurgaon	17	17	0.00
85	Centre for Development of Advanced Computing, C-DAC	C	Ghaziabad SSA	18	14	-22.22
86	Opto Network Pvt. Ltd.	C	SSA Ghaziabad	14	14	0.00
87	GTL Ltd.	A	All India	8	8	0.00
88	Kerala State Electronics Development Corp. Ltd. (Keltron)	C	Thiruvananthapuram	6	6	0.00
89	Pan India Network Infra Invest Pvt. Ltd. (Cyquator Technologies Ltd.)	B	Mumbai, Navi Mumbai	7	5	-28.57
90	ABT Ltd.	C	Coimbatore SSA		4	
91	Godrej Infotech Ltd.	B	Mumbai	7	4	-42.86
92	Gujrat Narmada Valley Fertilizer Co. Ltd. (GNFC)	A	All India	4	4	0.00
93	Manipal Ecommerce Ltd.	B	Karnataka		4	
94	Surana Telecom Ltd.	B	Andhra Pradesh	3	3	0.00
95	Compucom (I) Pvt. Ltd.	C	Jaipur	2	2	0.00
96	Spectrum Softech Solutions Pvt. Ltd.	C	Ernakulam SSA	224	0	-100.00
97	VSNL Broadband Ltd.	A	All India	0	0	
	<b>Total</b>			<b>9271031</b>	<b>9224555</b>	<b>-0.50</b>

**Table 4.1****Subscriber Base of Public Mobile Radio Trunking Services (PMRTS)**

<b>Sl.</b>	<b>Name of the Service Provider</b>	<b>Subscriber Base as on 31 Mar 07</b>	<b>Subscriber Base as on 30 Jun 07</b>	<b>%age growth rate</b>	<b>%age Market Share</b>
1	The Arvind Mills Ltd.	9675	9957	2.91	32.07
2	Procall Ltd.	8129	8224	1.17	26.49
3	QuickCalls India Pvt. Ltd.	4572	4174	-8.71	13.44
4	Smartalk Pvt Ltd.	1631	2195	34.58	7.07
5	Aryadoot Transport Pvt Ltd.	1536	1556	1.30	5.01
6	Bhilwara Telenet Services Pvt Ltd.	1158	1323	14.25	4.26
7	Arya Offshore Services Pvt Ltd.	1263	1279	1.27	4.12
8	German Express Shipping Agency (India) Pvt Ltd. (Hapag Llyod)	880	884	0.45	2.85
9	United Liner Agencies of India (Pvt) Ltd	1932	705	-63.51	2.27
10	Jet-Air Skyline Transport Pvt Ltd.	436	455	4.36	1.47
11	India Satcom Ltd.	284	289	1.76	0.93
12	Container Movement (Bombay) Transport Pvt Ltd.	5	5	0.00	0.02
	<b>Total</b>	<b>31501</b>	<b>31046</b>	<b>-1.44</b>	<b>100.00</b>

**Table 4.2****Subscriber Base of VSAT Service Providers**

Sr. No.	Name of Service Provider	Quarter ending		%age growth rate	%age Market Share
		Mar 2007	Jun 2007		
1	Hughes Communications Ltd.	20317	21137	4.04	33.73
2	HCL Comnet	20250	20776	2.60	33.16
3	Bharti Tele-venture Limited	8917	9352	4.88	14.92
4	Bharti Broadband	4862	4860	-0.04	7.76
5	Essel Shyam	2441	2414	-1.11	3.85
6	Tatanet Services (Tata Services)	3969	4069	2.52	6.49
7	ITI	49	49	0.00	0.08
8	GNFC	6	5	-16.67	0.01
	<b>Total</b>	<b>60811</b>	<b>62662</b>	<b>3.04</b>	<b>100.00</b>

**Table 6.1(a)**

**Range (Minimum and Maximum) of number of channels  
Pay, FTA, Local regularly carried on network as at the end  
of quarter ending 31<sup>st</sup> March, 2007 &  
quarter ending 30<sup>th</sup> June 2007**

Range	Pay channels		FTA channels		Local Channels		Total	
	Jan-Mar'07	April-June'07	Jan-Mar'07	April-June'07	Jan-Mar'07	April-June'07	Jan-Mar'07	April-June'07
Maximum	128	117	134	118	7	7	269	242
Minimum	30	30	33	34	1	1	64	65
No of Agencies / Service Providers Reporting							7	7
The digital service on the basis of reporting MSOs are offered in the cities of Delhi, Mumbai, Pune, Bangalore, Chennai and Kolkata								
Note: The figures of maximum and minimum are based on the number of channels (analogue and /or digital) reported across different networks of different reporting service providers having different combinations of pay, FTA and Local channels. Therefore, the sum of number of pay / FTA/Local channels column will not add up to the figures in the total column.								

**Table 6.1 (b)**

**Minimum and Maximum of number of channels Pay, FTA,  
Local regularly carried under different modes (Analogue or  
Digital or Simulcast) during quarter ending  
30<sup>th</sup> June 2007**

Mode	Range	Pay Channels		FTA Channels		Local Channels	
		Jan-Mar'07	April-June'07	Jan-Mar'07	April-June'07	Jan-Mar'07	April-June'07
Analogue	Max	56	60	73	73	7	7
	Min	30	30	25	23	2	1
Digital	Max	94	89	94	78	4	4
	Min	2	2	5	5	1	1
Analogue cum Digital (simulcast)	Max	35	36	39	39	2	2
	Min	25	18	2	1	1	1

Note: The figures of maximum and minimum are based on the number o of channels (analogue and /or digital) reported across different networks of different reporting service providers having different combinations of pay, FTA and Local channels. Therefore, figures in various cells above across a particular row as a combination may not be indicative of the size of the networks etc.

**Table 6.3****Total Advertisement Revenue**

	<b>Quarter ending 31<sup>st</sup> March, 2007</b>	<b>Quarter ending 30<sup>th</sup> June, 2007</b>
No of service providers Reporting	24	24
No of Radio Stations Reported for the quarter	64	65
Revenue from Advertisements / Air Time Sales (Rs Crores)	94.15	85.001

**Source:** FM Radio Service Providers

**Table 6.4**

**No. of Applications / Letters of Intent / Licenses Issued in  
respect of Teleport service providers**

	<b>Up to 30.06.2007</b>
Total No. of Applications Received	4
No of Licenses issued	5
No of Letters of Intend Issued	--
No of Applications rejected	1
No of Applications under consideration	6

**Source:** Ministry of Information & Broadcasting

**Table 6.5**

**Number of Applications received / Letters of Intent issued / Licenses Issued in respect of DTH Service Provider**

	<b>Up to 31.03.2007</b>	<b>Up to 30.06.2007</b>
Total No. of Applications Received	8	9
No of Licenses issued	3	4
No of Letters of Intent Issued	1	NIL
No of Applications rejected	2	2
No of Applications under consideration	2	3

**Source:** Ministry of Information & Broadcasting



**Table 6.6****List of Broadcasters of pay channels**

<b>S.No</b>	<b>Name of the broadcaster</b>
1	M/s Set Discovery Private Limited
2	M/s Zee Turner Limited
3	M/s ESPN Software India Private Limited
4	M/s B4U Television Network
5	M/s BBC World India Private Limited
6	M/s Star India Private Limited
7	M/s Sun TV Network Limited
8	M/s Raj Television Limited
9	M/s Ushodaya Enterprises
10	M/s Zoom
11	M/s Sahara One Media & Entertainment Limited
12	M/s MAA Television Limited
13	M/s Nimbus Sports Broadcast Limited

**Table 6.7**

**List of Multi System Operators approved for CAS notified areas of Delhi, Kolkata, Mumbai and Chennai alongwith their service areas**

<b>S.No</b>	<b>Name of the MSO</b>	<b>Area of operation</b>
1	M/s Barasat Cable TV Network Pvt Limited	Kolkata
2	M/s CableComm Services Private Ltd	Kolkata
3	M/s Hathway Cable & Datacom Pvt Ltd	Mumbai, Delhi, Chennai
4	M/s Home Cable Entertainment India Pvt Ltd	Mumbai
5	M/s Home Cable Network Pvt Ltd	New Delhi
6	M/s Howrah Cable Network Private Limited	Kolkata
7	M/s Indian Cable Net Company Ltd	Kolkata
8	M/s IndusInd Media & Communication Ltd	Mumbai, Delhi
9	M/s JPR Channel	Mumbai
10	M/s Kailash Cable Network Private Limited	Kolkata
11	M/s Kal Cables Private Limited	Chennai
12	M/s Kolkata Cable & Broadband Pariseva Ltd	Kolkata
13	M/s Manthan Broadband Services Pvt Limited	Kolkata
14	M/s Sanjay Cable Network Private Limited	New Delhi
15	M/s Satellite Cable TV Network	Mumbai
16	M/s Satellite Channels Private Limited	New Delhi
17	M/s Silver Line Broadband Services Pvt Ltd	Kolkata
18	M/s Siti Cable Network Limited	New Delhi, Mumbai, Kolkata
19	M/s Spectra Net Limited	New Delhi
20	M/s Sristi Cable TV Network Limited	Kolkata
21	M/s Star Broadband Service (India) Pvt Ltd	New Delhi
22	M/s Channel – III	Mumbai
23	M/s Advance Multisystem Broadband Communication Private Limited	Kolkata
24	M/s SCOD Networking Private Limited	Mumbai
25	M/s Seven Star Communications	New Delhi
26	M/s Live Satellite	Mumbai

## Annex 2.1

### List of Wireless, Wireline & Unified Access Service Providers

Circle	Operators		
	Wireless		Wireline
	Wireless	Unified	
Delhi	Hutch	Reliance Infocomm	MTNL
	MTNL	Tata Teleservices	
	Idea Cellular	Bharti Airtel Ltd	
		Aircell Ltd.	
Mumbai	BPL	Reliance Infocomm	MTNL
	Hutch	Tata Teleservices	
	MTNL	Bharti Airtel Ltd	
		Aircell Ltd.	
		Idea Cellular	
Chennai	Aircel	Reliance Infocomm	BSNL
	BSNL	Tata Teleservices	
	Hutchison South	Bharti Airtel Ltd	
Kolkata	Hutchison East	Reliance Infocomm	BSNL
	BSNL	Tata Teleservices	
	Reliable Internet Services Ltd.	Bharti Airtel Ltd	
		Dishnet Wireless Ltd.	
Maharashtra	BPL (Hutch)	Reliance Infocomm	BSNL
	Idea Cellular	Tata Teleservices	
	BSNL	Bharti Airtel Ltd	
		Aircell Ltd.	
Gujarat	Fascel (Hutch)	Reliance Infocomm	BSNL
	Idea Cellular	Tata Teleservices	
	BSNL	Bharti Airtel Ltd	
		Aircell Ltd.	
Andhra Pradesh	Idea Cellular	Reliance Infocomm	BSNL
	Hutchison South	Tata Teleservices	
	BSNL	Bharti Airtel Ltd.	
		Aircell Ltd.	
Karnataka	BSNL	Spice Communications	
	Hutch South	Reliance Infocomm	BSNL
		Tata Teleservices	

		Bharti Airtel Ltd.	
		Aircel Ltd.	
Tamilnadu	BPL	Reliance Infocomm	BSNL
	Aircel	Tata Teleservices	
	BSNL	Bharti Airtel Ltd	
Kerala	Idea Communications	Reliance Infocomm	BSNL
	BPL (Hutch)	Tata Teleservices	
	BSNL	Bharti Airtel Ltd	
		Dishnet Wireless Ltd.	
Punjab	BSNL	Reliance Infocomm	BSNL
	Hutchinson South	HFCL Infocom	
		Tata Teleservices	
		Bharti Airtel Ltd.	
		Spice Communications	
	Dishnet Wireless Ltd.		
Haryana	Idea Communications	Reliance Infocomm	BSNL
	ADIL (Hutch)	Tata Teleservices	
	BSNL	Bharti Airtel Ltd.	
		Dishnet Wireless Ltd.	
Uttar Pradesh(W)	Idea Communications	Reliance Infocomm	BSNL
	BSNL	Huchinson Essar South Ltd.	
		Tata Teleservices	
		Bharti Airtel Ltd.	
		Dishnet Wireless Ltd.	
Uttar Pradesh(E)	ADIL (Hutch)	Reliance Infocomm	BSNL
	BSNL	Tata Teleservices	
	IDEA Telecommunications	Bharti Airtel Ltd.	
		Dishnet Wireless Ltd.	
Rajasthan	ADIL (Hutch)	Reliance Infocomm	BSNL
	Bharti Hexacom Ltd.	Tata Teleservices	
	BSNL	Shyam Telelink	
	IDEA Telecommunications		
Madhya Pradesh	Idea	Reliance Infocomm	BSNL
	BSNL	Tata Teleservices	
	Reliance Telecom	Bharti Airtel Ltd.	
		Dishnet Wireless Ltd.	

WB&A&N	BSNL	Reliance Infocomm	BSNL
	Reliance Telecom	Tata Teleservices	
		Bharti Airtel Ltd.	
		Huchinson Essar South Ltd.	
		Dishnet Wireless Ltd.	
Himachal Pradesh	BSNL	Reliance Infocomm	BSNL
	Reliance Telecom	Tata Teleservices	
	IDEA Telecommunications	Dishnet Wireless Ltd.	
		Bharti Airtel Ltd.	
		Essar Spacetel Pvt. Ltd.	
Bihar	BSNL	Reliance Infocomm	BSNL
	Reliance Telecom	Tata Teleservices	
		Bharti Airtel Ltd.	
		Dishnet Wireless Ltd.	
		Essar Spacetel Pvt. Ltd.	
		Aditya Birla Telecom Ltd.	
Orissa	BSNL	Reliance Infocomm	BSNL
	Reliance Telecom	Tata Teleservices	
		Bharti Airtel Ltd.	
		Dishnet Wireless Ltd.	
		Essar Spacetel Pvt. Ltd.	
Assam	BSNL	Dishnet Wireless Ltd.	BSNL
	Reliance Telecom	Bharti Airtel Ltd.	
		Essar Spacetel Pvt. Ltd.	
North East	Reliance Telecom	Dishnet Wireless Ltd.	BSNL
	BSNL	Essar Spacetel Pvt. Ltd.	
	Bharti Hexacom Ltd.		
Jammu & Kashmir	BSNL	Dishnet Wireless Ltd.	BSNL
		Bharti Airtel Ltd.	
		Reliance Infocomm	
		Essar Spacetel Pvt. Ltd.	

## Annex 2.2

### Usage Pattern for GSM

Table a: MoU & SMS (per subscriber per month)

Circle	Postpaid			Prepaid				
	O/G MoU	I/C MoU	Total MoU	O/G SMS	O/G MoU	I/C MoU	Total MoU	O/G SMS
Circle A	542	555	1097	57	179	232	411	47
Circle B	563	429	992	50	200	221	422	20
Circle C	525	453	978	33	169	205	373	13
<b>Metro</b>	447	452	898	53	156	215	371	48
All India	<b>514</b>	<b>483</b>	<b>997</b>	<b>52</b>	<b>182</b>	<b>222</b>	<b>404</b>	<b>33</b>

BLENDED [Postpaid + Prepaid]

Circle	O/G MoU	I/C MoU	Total MoU	O/G SMS
Circle A	222	271	493	48
Circle B	228	237	464	22
Circle C	205	230	435	15
<b>Metro</b>	221	268	489	50
All India	<b>222</b>	<b>254</b>	<b>476</b>	<b>35</b>

Table b: Composition of outgoing minutes of use

Circle	Local (Intra-circle)	NLD (Inter-circle)	ILD
Circle A	89.05%	10.50%	0.45%
Circle B	89.34%	10.12%	0.55%
Circle C	88.08%	11.64%	0.28%
<b>Metro</b>	75.72%	23.38%	0.89%
All India	<b>86.71%</b>	<b>12.74%</b>	<b>0.55%</b>

Table c: Composition of outgoing Local (Intra-circle) minutes of use

Circle	To Fixed	To Mobile	To On network (Mobile)
Circle A	9%	91%	48%
Circle B	11%	89%	57%
Circle C	10%	90%	64%
<b>Metro</b>	9%	91%	45%
All India	<b>10%</b>	<b>90%</b>	<b>53%</b>

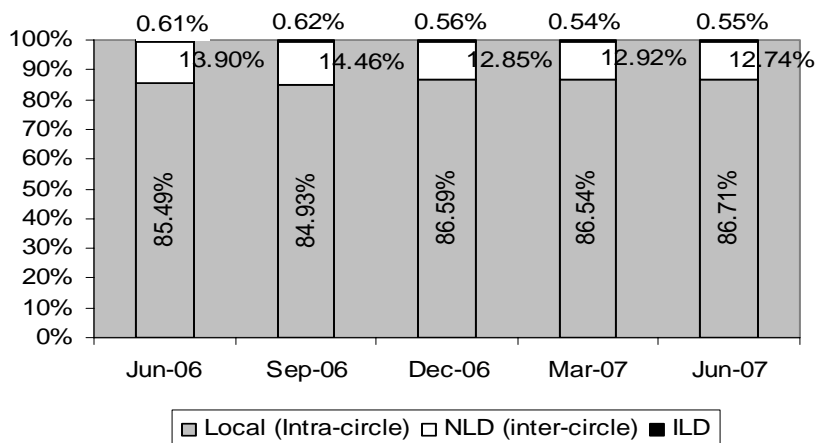
Table d: Composition of outgoing NLD (inter-circle) minutes of use

Circle	To Fixed	To Mobile
Circle A	16%	84%
Circle B	15%	85%
Circle C	19%	81%
<b>Metro</b>	14%	86%
All India	<b>15%</b>	<b>85%</b>

Table e: Composition of Total outgoing minutes of use (excl. ILD)

Circle	To Fixed	To Mobile
Circle A	10%	90%
Circle B	11%	89%
Circle C	11%	89%
<b>Metro</b>	10%	90%
All India	<b>10%</b>	<b>90%</b>

Chart: Composition of outgoing MoUs



## Annex 2.3

### Usage Pattern – CDMA

Table a: MoU & SMS (per subscriber per month)

Circle	Postpaid				Prepaid			
	O/G MoU	I/C MoU	Total MoU	O/G SMS	O/G MoU	I/C MoU	Total MoU	O/G SMS
Circle A	490	370	860	27	151	225	375	24
<b>Circle B</b>	576	302	877	22	217	226	443	14
<b>Circle C</b>	637	303	940	12	251	263	513	9
<b>Metro</b>	568	331	899	26	153	196	349	21
<b>All India</b>	<b>544</b>	<b>336</b>	<b>880</b>	<b>25</b>	<b>182</b>	<b>221</b>	<b>403</b>	<b>19</b>

Circle	Blended			
	O/G MoU	I/C MoU	Total MoU	O/G SMS
Circle A	193	243	435	24
Circle B	253	233	486	15
Circle C	273	265	538	9
Metro	225	219	444	22
<b>All India</b>	<b>226</b>	<b>235</b>	<b>462</b>	<b>20</b>

Table b: Composition of outgoing minutes of use

Circle	Local (Intra-circle)	NLD (Inter-Circle)	ILD
Circle A	89.1%	10.7%	0.2%
Circle B	87.5%	12.1%	0.4%
Circle C	88.4%	11.5%	0.1%
Metro	79.3%	20.5%	0.2%
<b>All India</b>	<b>86.1%</b>	<b>13.6%</b>	<b>0.3%</b>

Table c: Outgoing MoUs per subscriber per month

Circle	Local (Intra-circle)	NLD (Inter-Circle)	ILD
Circle A	172	21	0.4
Circle B	221	31	1.1
Circle C	241	31	0.2
Metro	178	46	0.4
<b>All India</b>	<b>194.8</b>	<b>30.6</b>	<b>0.6</b>



Table d: Composition of outgoing Local (Intra-circle) minutes of use based on terminating network.

<b>Circle</b>	<b>To Fixed</b>	<b>To Mobile</b>	<b>To Own Network (Mobile)</b>
Circle A	10%	90%	53%
Circle B	8%	92%	65%
Circle C	7%	93%	58%
Metro	9%	91%	63%
<b>All India</b>	<b>9%</b>	<b>91%</b>	<b>60%</b>

Table e: Composition of Outgoing NLD (Inter-Circle) minutes of use based on terminating network.

<b>Circle</b>	<b>To Fixed</b>	<b>To Mobile</b>
Circle A	1%	99%
Circle B	1%	99%
Circle C	4%	96%
Metro	1%	99%
<b>All India</b>	<b>1%</b>	<b>99%</b>

Table f: Composition of Total outgoing minutes of use (excl. ILD) based on terminating network.

<b>Circle</b>	<b>To Fixed</b>	<b>To Mobile</b>
Circle A	11%	89%
Circle B	9%	91%
Circle C	8%	92%
Metro	9%	91%
<b>All India</b>	<b>9%</b>	<b>91%</b>

## Annex 2.4

### Average Subscriber Outgo (Rental + Call Charges) Per Minute (Rs. Per Minute) for GSM

[Rs. Per min]

	<b>Postpaid</b>	<b>Prepaid</b>	<b>Blended</b>
Circle A	0.99	1.12	1.08
Circle B	0.84	1.02	0.99
Circle C	0.99	1.40	1.29
Metros	1.21	1.40	1.31
<b>All India</b>	<b>1.02</b>	<b>1.14</b>	<b>1.11</b>

\* Outgo includes both Rental and call charges

## Annex 2.5

### Average Subscriber Outgo (Rental + Call Charges) Per Minute (Rs. Per Minute) for CDMA

[Rs. Per min]

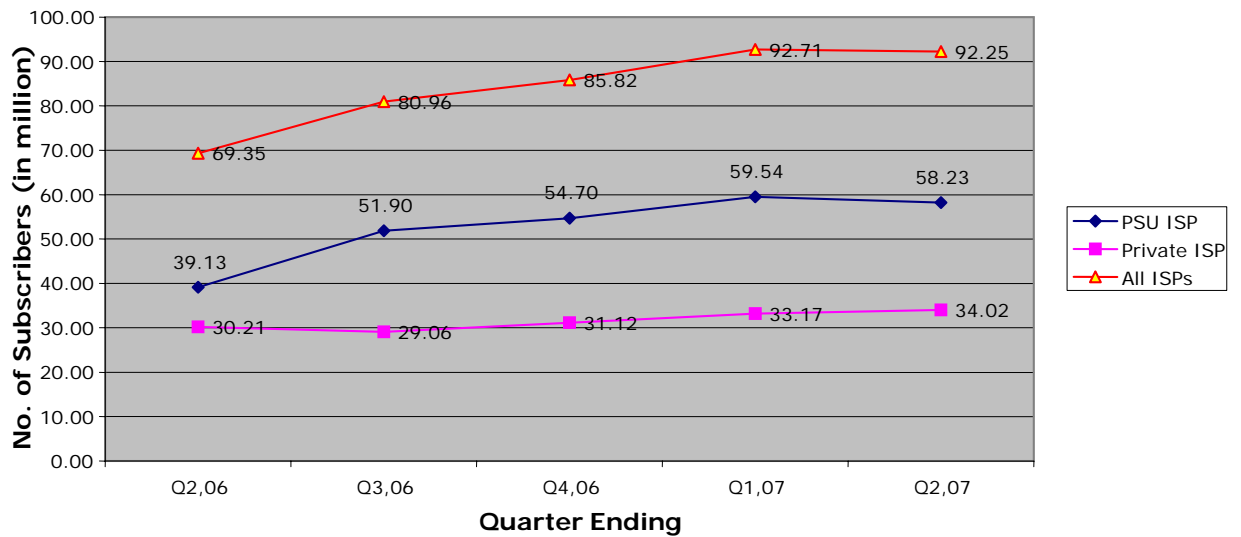
Category	Prepaid	Postpaid	Blended
Category - A	0.91	0.92	0.91
Category - B	0.68	0.76	0.69
Category - C	0.74	0.81	0.75
Metro	1.03	1.11	1.06
<b>All India</b>	<b>0.82</b>	<b>0.93</b>	<b>0.85</b>

\* Outgo includes both Rental and call charges

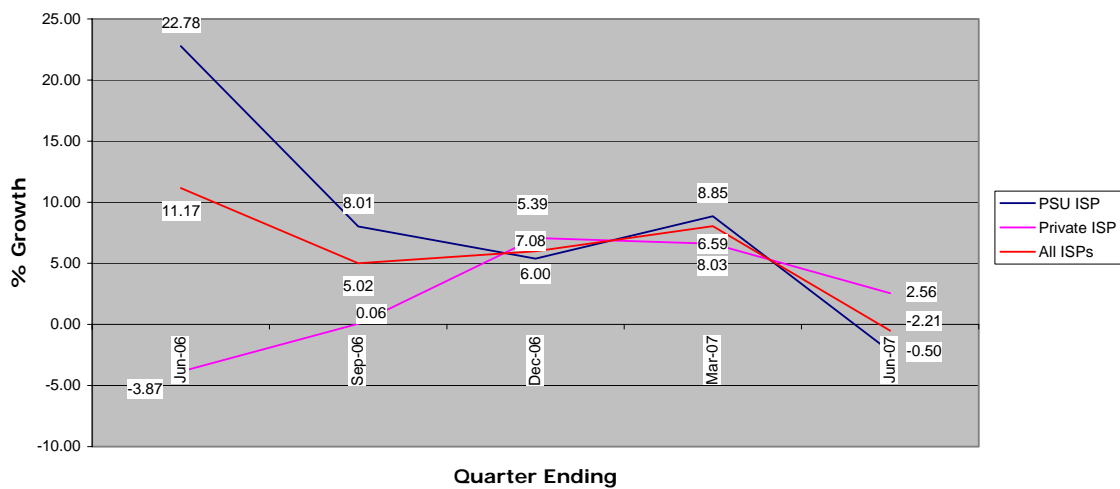
## Annex 3.1

### Growth Pattern of Internet Subscribers

Growth Trends



Growth Trends-II

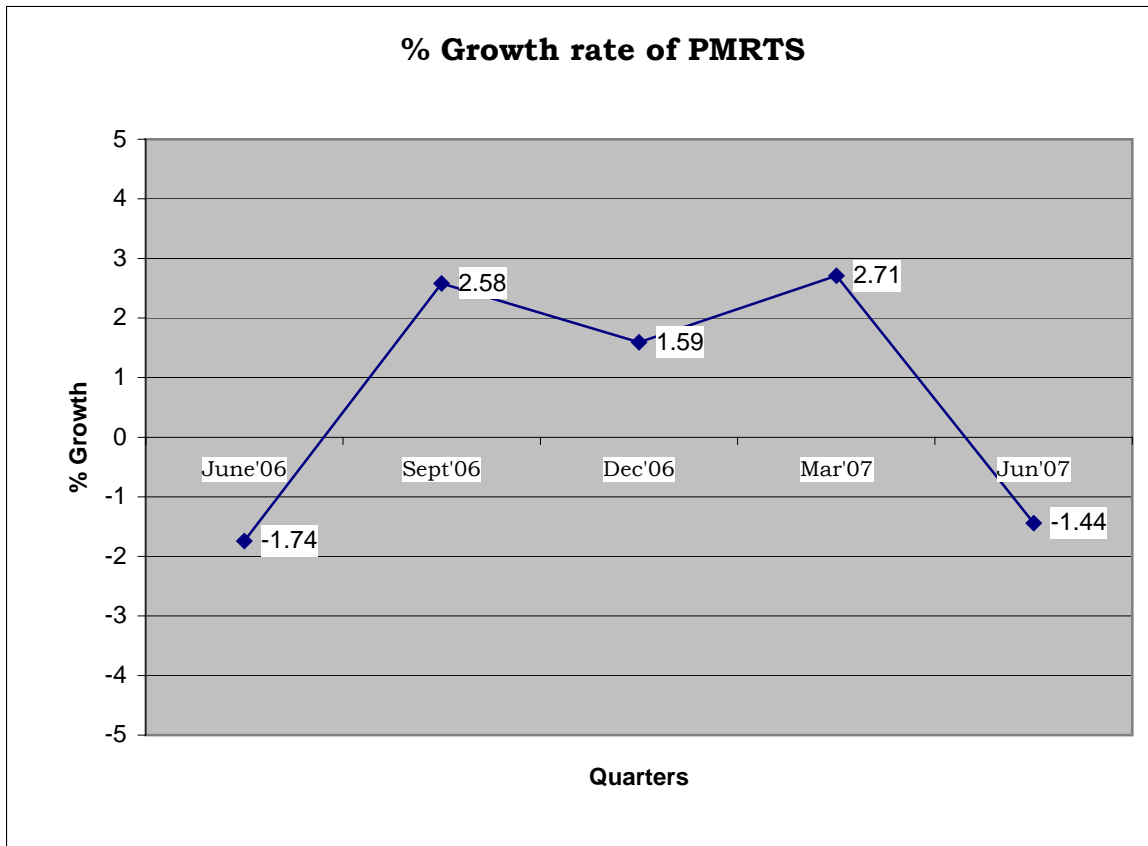


## Annex 3.2

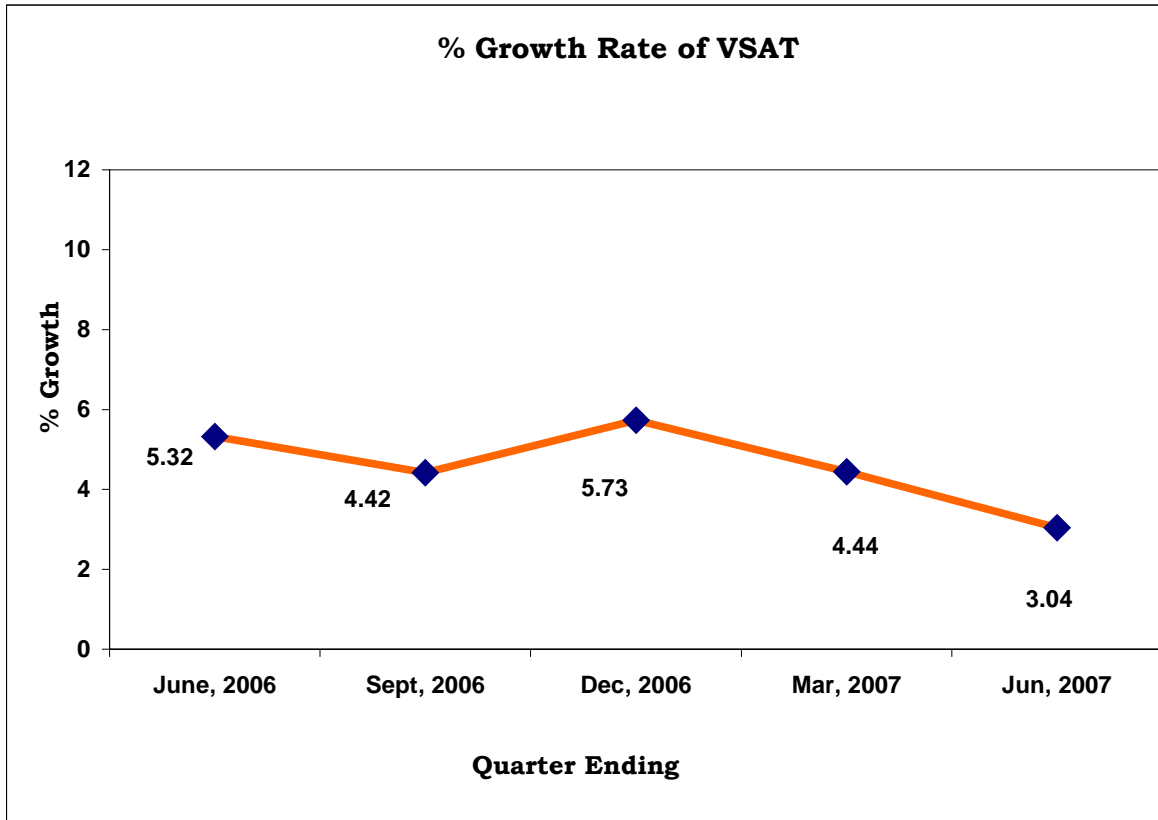
### List of Internet Telephony Service Providers

<b>Sl.</b>	<b>Name of ISP</b>
1	Asianet Satellite Communications Ltd.
2	Blazenet Ltd.
3	Broadband Pacenet (I) Pvt. Ltd.
4	City Online Services Ltd.
5	CJ Online Pvt. Ltd.
6	Data Infosys Ltd.
7	DeIDSL Internet Pvt. Ltd.
8	Digital2Virtual ISP Pvt. Ltd.
9	Dishnet Wireless Ltd.
10	Estel Communications Pvt. Ltd.
11	HCL Infinet Ltd.
12	Icenet.net Limited
13	In2cable (I) Ltd.
14	Mahanagar Telephone Nigam Ltd.
15	Manipal Ecommerce Ltd.
16	NetMagic Solutions(P) Ltd.
17	Nettlinx Ltd.
18	Opto Network Pvt. Ltd.
19	Pioneer Online Pvt. Ltd.
20	Sify Ltd.
21	Southern Online Bio Technologies Ltd.
22	Swastik Netvision Telecom P. Ltd.
23	Trak Online Net India Pvt.Ltd
24	Trikon Electronics Pvt. Ltd.
25	Value Healthcare Ltd.
26	Videsh Sanchar Nigam Ltd.
27	VSNL Internet Services Ltd. (DIL Internet Ltd.-Primus)
28	YOU Telecom India Pvt. Ltd.

**Growth Rate of PMRTS subscribers**



**Growth Rate of VSAT Subscribers**



## Annex 5.1

### Quality of Service (QOS) Performance for Wireline Services

Sl. No	Service Area	Service Providers	New connections after registration of demand	Fault incidences per 100 sub/month)	Fault repaired by next working day	Rent Rebate (Total no. of cases)	Mean Time to Repair (MTTR)	Grade of service (calls per thousand)	Call completion rate in local network	Metering & billing credibility- % of bills disputed	Time taken for refund of deposits after closures	Shifts	Closures	Additional facility	Response Time to the Customer for Assistance			
			100% in < 7days	<5	>90%	For faults pending > 3 days to >15 days	<8 hrs	a) Junction between local exchange (2/1000)	>55%	<0.1%	100% within 60 days	95% of requests			%age of calls answered (electronically)		%age of calls answered by operator (voice to voice)	
												< 3 days	< 24 hours	< 24 hours	Within 20 sec = 80%	within 40 sec = 95%	Within 60 sec = 80%	within 90 sec = 95%
1	ANDRA PRADESH	BSNL	95.29	4.10	88.94	0	12.20	NA	62.00%	NA	100.00%	70.99	NA	59.07	100.00	100.00	94.93	97.03
		RELIANCE	82.13	3.37	99.27	35	4.17	0.0500	NA	0.095	100.00%	100.00	96.10	99.86	100.00	100.00	96.30	98.30
		BHARTI	77.56	5.13	99.10	3	1.42	0.0000	53.30%	0.507	49.33%	88.84	48.64	99.32	98.00	99.00	99.67	99.84
		TATA	87.44	3.00	85.68	139	13.50	0.0000	78.90%	0.013	100.00%	60.98	100.00	96.29	100.00	100.00	81.00	87.00
2	BIHAR	BSNL	100.00	5.60	78.71	455	10.20	NA	58.00%	0.021	100.00%	100.00	93.22	78.87	NA	NA	NA	NA
		TATA	97.95	Nil	Nil	0	0.00	NA	NA	Nil	100.00%	Nil	100.00	Nil	100.00	100.00	93.00	96.00
		RELIANCE	0.00	Nil	Nil	0	0.00	0.1200	NA	Nil	100.00%	Nil	Nil	Nil	100.00	100.00	96.30	98.30
3	DELHI	MTNL	95.70	7.00	85.15	21373	6.89	0.0000	49.23%	0.057	100.00%	82.41	97.71	97.97	100.00	100.00	84.60	97.17
		RELIANCE	28.06	0.80	98.99	17	4.36	0.0000	NA	0.102	100.00%	100.00	96.20	98.87	100.00	100.00	96.30	98.30
		BHARTI	99.43	4.23	98.01	1184	8.63	0.0010	52.69%	0.012	0.90%	97.16	40.50	97.69	NA	NA	94.68	99.94
		TATA	57.02	4.80	5.58	2520	19.94	0.0000	55.30%	0.194	100.00%	80.00	100.00	72.24	100.00	100.00	85.00	88.00
4	GUJARAT	BSNL	100.00	6.60	88.25	0	12.30	NA	63.00%	NA	100.00%	50.44	95.05	97.90	100.00	100.00	100.00	100.00
		RELIANCE	97.18	3.69	99.61	31	4.46	0.1500	NA	0.095	100.00%	97.13	96.75	99.70	100.00	100.00	96.30	98.30
		BHARTI	96.99	4.00	97.62	0	2.20	0.0005	56.30%	0.039	96.33%	95.85	99.63	99.93	NA	NA	93.65	95.07
		TATA	91.46	0.80	81.91	7	9.70	0.0000	55.21%	0.393	100.00%	80.27	100.00	94.13	100.00	100.00	82.60	87.30
5	CHATTISGARH	BSNL	100.00	7.90	85.01	0	12.10	NA	64.00%	0.014	100.00%	89.38	100.00	100.00	100.00	100.00	90.00	95.00
6	MP	BSNL	100.00	4.40	95.34	0	5.60	NA	70.00%	NA	100.00%	86.92	99.34	97.20	90.00	95.00	99.00	99.90
		RELIANCE	81.65	3.08	99.64	7	4.27	0.0500	NA	0.082	100.00%	46.59	NA	NA	100.00	100.00	96.30	98.30
		BHARTI	92.85	6.00	96.15	373	7.79	0.1330	48.12%	0.016	23.55%	96.04	99.96	94.79	100.00	100.00	98.43	100.00
7	MAHARASHTRA	BSNL	88.31	7.10	89.89	45	9.30	NA	53.00%	0.019	100.00%	57.42	93.37	88.07	100.00	100.00	100.00	100.00
		RELIANCE	73.48	0.06	83.33	10	4.47	0.1600	NA	0.086	100.00%	98.96	96.84	98.94	100.00	100.00	96.30	98.30
		BHARTI	97.97	3.39	97.83	10	2.60	0.0017	55.48%	0.013	97.00%	95.24	99.25	99.92	NA	NA	94.85	96.19
		TATA	90.01	2.84	93.19	127	7.67	0.0020	57.00%	0.131	100.00%	80.61	79.20	83.59	100.00	100.00	74.00	80.00



8	PUNJAB	BSNL	100.00	8.50	88.90	75	13.90	NA	64.00%	0.009	100.00%	98.34	100.00	100.00	100.00	100.00	79.33	90.00
		RELIANCE	98.27	4.53	99.84	6	4.19	0.0400	NA	0.058	100.00%	100.00	97.92	98.77	100.00	100.00	96.30	98.30
		BHARTI	97.25	1.93	98.63	166	10.10	0.0009	52.00%	0.020	3.94%	90.18	44.97	99.35	NA	NA	96.36	98.18
		TATA	77.68	2.40	60.23	22	NA	NA	72.99%	0.000	100.00%	53.85	100.00	Nil	100.00	100.00	93.00	96.00
		HFCL	99.15	3.98	98.59	16	4.50	0.0002	55.63%	0.125	100.00%	97.89	100.00	99.67	100.00	100.00	94.00	97.00
9	RAJASTHAN	BSNL	98.10	6.90	89.89	1	8.30	NA	51.00%	0.011	100.00%	91.44	99.57	93.31	100.00	100.00	82.67	95.00
		RELIANCE	38.80	1.93	99.44	2	7.65	0.1700	NA	0.070	100.00%	100.00	98.08	98.08	100.00	100.00	96.30	98.30
		BHARTI	99.64	4.00	98.96	1521	9.90	0.0256	52.00%	0.027	0.00%	100.00	44.04	99.29	NA	NA	96.36	98.18
		SHYAM	97.90	2.74	91.77	NA	5.00	0.0010	89.72%	0.099	100.00%	95.83	100.00	98.54	NA	NA	87.00	NA
10	TAMILNADU	BSNL	100.00	2.90	96.04	0	5.50	NA	78.00%	NA	100.00%	100.00	100.00	100.00	99.62	99.62	99.50	99.62
		RELIANCE	100.00	1.06	99.73	2	5.66	0.0700	NA	0.027	100.00%	100.00	99.68	99.56	100.00	100.00	96.30	98.30
		BHARTI	92.96	4.39	99.82	58	6.39	0.0002	54.60%	0.122	98.00%	99.12	20.51	98.90	100.00	100.00	99.07	99.64
		TATA	22.44	0.20	Nil	0	6.39	0.0000	58.29%	Nil	92.00%	Nil	Nil	100.00	100.00	100.00	89.00	92.00
11	HARYANA	BSNL	100.00	5.90	93.47	0	7.60	NA	73.00%	NA	100.00%	99.49	100.00	100.00	100.00	100.00	80.00	100.00
		RELIANCE	100.00	Nil	Nil	0	NA	0.0200	NA	0.000	100.00%	Nil	Nil	100.00	100.00	100.00	96.30	98.30
		TATA	66.67	Nil	Nil	0	0.00	NA	NA	0.000	NA	Nil	Nil	Nil	100.00	100.00	94.00	96.00
		BHARTI	99.74	5.00	99.56	62	9.90	0.0667	51.00%	0.076	0.67%	99.01	43.92	99.24	NA	NA	96.36	98.18
12	KARNATAKA	BSNL	100.00	6.80	56.29	0	12.70	NA	65.00%	NA	100.00%	95.61	100.00	100.00	100.00	100.00	99.91	99.97
		RELIANCE	29.85	1.13	99.34	20	4.49	0.3100	NA	0.075	100.00%	96.13	97.58	99.71	100.00	100.00	96.30	98.30
		BHARTI	87.78	5.00	95.22	460	3.24	0.0002	52.00%	0.048	76.33%	75.81	32.41	99.82	99.00	100.00	94.33	97.39
		TATA	82.77	0.20	96.02	8	7.40	0.0000	68.28%	0.072	100.00%	100.00	100.00	100.00	100.00	100.00	90.00	93.00
13	A&N	BSNL	96.16	4.70	93.00	0	6.70	NA	47.00%	NA	100.00%	97.22	100.00	100.00	NA	NA	NA	NA
14	ASSAM	BSNL	78.85	7.80	80.21	56	11.30	NA	NA	0.063	100.00%	100.00	79.82	64.97	86.00	99.00	97.00	99.33
15	CHENNAI	BSNL	99.51	3.30	92.84	2	9.70	NA	80.00%	0.007	100.00%	77.79	100.00	100.00	100.00	100.00	96.77	98.50
		RELIANCE	59.81	1.78	100.00	0	4.26	0.0800	NA	0.028	100.00%	96.05	96.99	99.51	100.00	100.00	96.30	98.30
		TATA	92.02	0.20	99.00	1	7.40	NA	58.68%	Nil	100.00%	100.00	100.00	100.00	100.00	100.00	89.00	92.00
16	H P	RELIANCE	50.67	Nil	Nil	0	NA	3.3900	NA	0.000	100.00%	Nil	Nil	Nil	100.00	100.00	96.30	98.30
		BSNL	100.00	9.00	89.30	562	7.50	NA	7.50%	0.010	100.00%	Nil	100.00	94.76	NA	NA	NA	NA
17	JHARKHAND	BSNL	98.48	4.90	87.29	0	11.10	NA	52.00%	NA	NA	81.59	98.77	98.69	NA	NA	NA	NA
18	J & K	BSNL	NA	9.00	88.54	0	6.40	NA	51.00%	NA	NA	NA	99.28	98.82	NA	NA	NA	NA

19	KERALA	BSNL	96.54	7.70	85.53	846	17.40	NA	65.00%	0.015	100.00%	73.03	98.91	92.49	100.00	100.00	74.92	100.00
		BHARTI	73.81	3.23	95.56	44	3.17	0.0002	55.00%	0.355	80.33%	77.69	27.85	99.68	NA	NA	98.44	99.44
		TATA	38.24	Nil	Nil	0	0.00	NA	57.26%	0.000	100.00%	Nil	100.00	Nil	100.00	100.00	85.00	89.00
		RELIANCE	57.46	1.20	100.00	0	4.58	0.0000	NA	0.015	100.00%	84.85	96.23	98.20	100.00	100.00	96.30	98.30
20	KOLKATA	BHARTI	90.63	4.50	94.05	185	14.10	0.0001	57.10%	0.028	0.24%	39.24	39.47	98.87	96.36	98.18	96.36	98.18
		RELIANCE	70.50	1.12	96.52	57	4.27	0.0000	NA	0.103	100.00%	100.00	96.77	97.64	100.00	100.00	96.30	98.30
		TATA	58.48	Nil	Nil	0	NA	NA	68.40%	Nil	NA	Nil	Nil	Nil	93.00	93.00	82.00	89.00
		BSNL	99.51	4.10	91.06	2783	8.90	NA	60.00%	0.078	100.00%	76.79	98.06	98.77	100.00	100.00	100.00	100.00
21	MUMBAI	TATA	77.21	3.79	94.83	476	7.29	0.0000	58.00%	0.369	99.61%	84.79	100.00	92.35	100.00	100.00	84.43	87.60
		BHARTI	97.07	2.30	91.77	66	3.17	0.0000	55.91%	0.011	96.00%	90.85	99.59	99.92	NA	NA	94.83	96.01
		RELIANCE	26.58	0.78	99.51	15	5.24	0.0000	NA	0.093	100.00%	60.68	96.59	98.29	100.00	100.00	96.30	98.30
		MTNL	69.92	9.59	79.58	112630	24.64	0.0003	55.98%	0.055	91.49%	33.80	63.03	70.16	99.33	94.22	85.52	88.51
22	NE-I	BSNL	69.27	5.50	88.46	0	28.20	NA	56.00%	NA	100.00%	11.53	80.26	91.76	NA	NA	NA	NA
23	NE-II	BSNL	100.00	4.40	93.34	144	10.30	NA	60.00%	0.024	100.00%	100.00	100.00	100.00	87.83	97.31	89.00	96.00
24	ORISSA	BSNL	100.00	5.50	90.34	4595	7.90	NA	58.00%	0.033	100.00%	100.00	NA	NA	100.00	100.00	100.00	100.00
		RELIANCE	90.24	Nil	NA	0	NA	0.0600	NA	0.000	100.00%	Nil	Nil	Nil	100.00	100.00	96.30	98.30
25	UP-E	BSNL	99.19	6.40	93.03	0	6.80	NA	73.00%	NA	100.00%	98.27	95.81	99.78	100.00	100.00	98.67	99.00
		BHARTI	99.18	6.70	96.08	133	10.91	0.0000	45.60%	0.032	0.00%	85.95	38.10	98.76	NA	NA	96.36	98.18
		RELIANCE	100.00	4.95	97.85	17	4.00	0.0700	NA	0.091	100.00%	100.00	97.99	98.71	100.00	100.00	96.30	98.30
26	UP-W	BSNL	76.53	7.70	90.75	296	8.20	NA	68.00%	0.018	100.00%	52.11	97.91	99.26	100.00	100.00	90.67	96.00
		BHARTI	99.21	7.01	96.92	119	11.51	0.0016	4.85%	0.033	0.60%	62.59	47.44	99.14	NA	NA	96.36	87.18
		RELIANCE	70.36	Nil	NA	0	NA	0.1900	NA	0.000	100.00%	Nil	Nil	Nil	100.00	100.00	96.30	98.30
27	UTTRANCHAL	BSNL	98.37	6.80	91.89	0	7.50	NA	73.00%	NA	100.00%	100.00	89.73	100.00	58.07	75.10	79.00	86.33
28	WEST BENGAL	BSNL	100.00	5.90	86.60	798	11.30	NA	63.00%	0.030	100.00%	98.96	100.00	100.00	94.00	96.67	95.00	97.33
		RELIANCE	81.05	Nil	NA	0	NA	1.7900	NA	0.000	100.00%	Nil	Nil	Nil	100.00	100.00	96.30	98.30

Operator not meeting the prescribed benchmark

NA = Data not available

## Annex 5.2

### Quality of Service Performance for Wireless Services

Sl. No.	Name of Licensees & Service area	Parameters													
		(A) Network Performance						(B) Customer help lines				(C) Billing Complaints			
		(i)	(ii)	(iii)	(iv)		(v)	(vi)	(i)				(i)	(ii)	(iii)
		Accumulated down time of community isolation	Call Set-up Success Rate (within licensees own network)	Service Access Delay	Blocked Call Rate (Averaged over the quarter)		Call Drop Rate	%age of connections with good voice quality	Response time to the customer for assistance				Complaints per 100 bills issued	% of complaints resolved within 4 weeks	Period of all refunds/ payment due to customers from the date of resolution of complaints as in
Benchmarks															
<24 hrs	>95%	Between 9 to 20 seconds depending upon number of paging attempts (Average of 100 calls = <15 sec)	SDCCH / Paging Channel Congestion <1%	TCH Congestion <2%	<3%	>95%	(I) %age of calls answered (electronically) within 20 seconds = 80%,	(I) %age of calls answered (electronically) within 40 seconds = 95%	(I) %age of calls answered by operator (voice to voice); within 60 seconds=80%,	(I) %age of calls answered by operator (voice to voice); within 90 seconds = 95%,	<0.1%	100%	<4 weeks		
	<b>'A' Circle</b>														
<b>I</b>	<b>Maharashtra</b>														
1	Vodafone Essar	1.43	99.74%	13.90	0.60%	1.21%	1.14%	97.97%	100.00%	100.00%	95.51%	99.22%	0.083%	100.00%	15 days
2	IDEA Cellular	0.30	98.64%	9.16	0.45%	0.89%	1.16%	99.05%	99.15%	99.15%	81.77%	82.21%	0.053%	100.00%	30 days
3	BSNL	0.00	98.80%	8.50	0.80%	1.40%	1.30%	97.74%	100.00%	100.00%	67.00%	78.00%	0.008%	100.00%	30 days
4	Bharti Airtel Limited	22.83	99.27%	12.00	0.63%	1.04%	1.11%	93.65%	99.95%	99.96%	95.61%	97.84%	0.040%	100.00%	30 days
5	Reliance Comm	0.39	99.55%	4.13	0.00%	0.00%	0.94%	99.21%	99.50%	99.50%	54.77%	68.72%	0.050%	100.00%	30 days
6	Tata Teleservices	16.26	98.04%	13.00	NA	0.80%	0.64%	97.30%	100.00%	100.00%	73.67%	80.00%	0.110%	100.00%	30 days
<b>ii</b>	<b>Gujarat</b>														
7	Vodafone Essar	17.10	98.59%	9.58	0.14%	0.69%	1.01%	97.45%	100.00%	100.00%	93.43%	98.67%	0.048%	100.00%	15 days
8	IDEA Cellular	4.15	99.29%	13.12	0.95%	0.41%	1.90%	97.81%	89.00%	99.00%	69.67%	83.33%	0.075%	100.00%	30 days
9	BSNL	0.00	99.40%	2.22	0.55%	1.92%	1.28%	95.00%	100.00%	100.00%	82.00%	95.00%	0.050%	100.00%	30 days
10	Bharti Airtel Limited	0.00	96.01%	14.35	0.66%	0.75%	1.08%	97.75%	100.00%	100.00%	97.67%	99.17%	0.070%	100.00%	30 days
11	Reliance Comm	0.53	99.64%	3.86	0.00%	0.00%	0.98%	99.57%	99.50%	99.50%	57.92%	69.10%	0.070%	100.00%	30 days
12	Tata Teleservices	9.41	98.79%	12.00	NA	0.05%	0.42%	97.81%	100.00%	100.00%	82.60%	87.30%	0.170%	100.00%	30 days

iii	<b>Andhra Pradesh</b>															
13	IDEA Cellular	0.00	99.98%	7.00	0.20%	1.15%	0.60%	99.50%	100.00%	100.00%	87.67%	99.00%	0.030%	100.00%	30 days	
14	Bharti Airtel Limited	16.83	96.48%	2.38	0.93%	1.11%	0.77%	98.44%	100.00%	100.00%	97.00%	98.00%	0.010%	100.00%	30 days	
15	BSNL	18.29	99.00%	7.10	0.45%	3.16%	1.65%	98.67%	100.00%	100.00%	34.00%	43.00%	0.010%	100.00%	01 day	
16	Vodafone Essar	20.00	99.79%	9.00	0.16%	0.30%	1.60%	98.00%	100.00%	100.00%	91.32%	95.17%	0.029%	100.00%	15 days	
17	Reliance Comm	0.29	99.56%	3.87	0.00%	0.00%	0.67%	99.65%	99.50%	99.50%	80.01%	86.53%	0.040%	100.00%	30 days	
18	Tata Teleservices	16.16	98.68%	12.00	NA	0.81%	0.52%	97.55%	100.00%	100.00%	81.40%	86.50%	0.050%	100.00%	30 days	
iv	<b>Karnataka</b>															
19	Bharti Airtel Limited	6.84	99.56%	5.90	0.52%	0.77%	1.35%	88.72%	100.00%	100.00%	89.00%	94.00%	0.000%	100.00%	30 days	
20	Spice Comm.	22.40	98.54%	8.31	0.87%	1.91%	1.30%	99.01%	100.00%	100.00%	93.97%	98.25%	0.018%	100.00%	30 days	
21	BSNL	7.76	96.73%	9.27	0.88%	1.77%	1.28%	97.73%	100.00%	100.00%	86.00%	89.67%	0.100%	100.00%	30 days	
22	Vodafone Essar	21.68	98.31%	10.25	0.12%	1.44%	1.61%	98.42%	98.09%	99.00%	96.00%	97.67%	0.031%	100.00%	15 days	
23	Reliance Comm	0.40	99.53%	3.90	0.00%	0.00%	0.63%	99.34%	99.50%	99.50%	63.94%	71.71%	0.050%	100.00%	30 days	
24	Tata Teleservices	21.37	98.03%	12.00	NA	0.24%	0.89%	97.93%	100.00%	100.00%	90.40%	92.90%	0.070%	100.00%	30 days	
v	<b>Tamil Nadu</b>															
25	Vodafone Essar	13.17	99.23%	12.23	0.17%	1.82%	1.30%	99.20%	100.00%	100.00%	92.06%	98.85%	0.082%	100.00%	15 days	
26	Aircel	21.49	98.21%	11.10	NA	NA	0.72%	89.09%	NA	NA	NA	NA	0.040%	100.00%	30 days	
27	BSNL	0.00	95.60%	9.61	0.88%	1.95%	1.01%	95.95%	100.00%	100.00%	99.00%	99.00%	0.000%	100.00%	Nil	
28	Bharti Airtel Limited	19.80	98.52%	9.46	0.40%	0.14%	0.93%	97.36%	100.00%	100.00%	94.43%	97.24%	0.080%	100.00%	30 days	
29	Reliance Comm	0.45	99.52%	4.02	0.00%	0.00%	0.98%	98.44%	99.50%	99.50%	74.62%	80.64%	0.050%	100.00%	30 days	
30	Tata Teleservices	6.21	99.78%	15.00	NA	0.32%	0.83%	98.62%	100.00%	100.00%	89.10%	92.10%	0.030%	100.00%	30 days	
	<b>B' Circle</b>															
vi	<b>Kerala</b>															
31	IDEA Cellular	22.26	99.85%	13.17	0.48%	1.50%	0.53%	96.73%	98.00%	100.00%	88.00%	95.00%	0.071%	100.00%	30 days	
32	Vodafone Essar	18.70	97.40%	14.05	0.60%	1.28%	1.80%	98.85%	100.00%	100.00%	94.76%	99.73%	0.006%	100.00%	15 days	
33	BSNL	7.14	99.40%	4.30	0.20%	1.99%	1.45%	98.20%	100.00%	100.00%	92.00%	96.00%	0.001%	100.00%	30 days	
34	Bharti Airtel Limited	16.00	99.37%	13.19	0.14%	0.12%	1.33%	97.67%	100.00%	100.00%	93.00%	96.00%	0.090%	100.00%	30 days	
35	Tata Teleservices	0.00	99.71%	15.00	NA	0.00%	0.58%	97.53%	100.00%	100.00%	84.90%	88.80%	0.050%	100.00%	30 days	
36	Reliance Comm	0.33	99.60%	4.02	0.00%	0.00%	0.88%	99.47%	99.50%	99.50%	68.54%	78.94%	0.040%	100.00%	30 days	
vii	<b>Punjab</b>															
37	Spice Comm.	13.83	98.23%	9.60	0.09%	1.24%	1.17%	96.80%	81.00%	96.00%	83.00%	95.00%	0.041%	100.00%	15 days	
38	HFCL - CDMA	4.53	96.76%	13.20	0.00%	0.00%	0.63%	98.25%	100.00%	100.00%	98.00%	98.00%	0.003%	100.00%	30 days	
39	Bharti Airtel Limited	13.15	99.35%	3.50	0.15%	0.29%	1.39%	98.51%	99.58%	99.91%	89.41%	95.25%	0.090%	100.00%	30 days	
40	Vodafone Essar	1.00	99.43%	10.00	0.06%	0.07%	1.31%	97.70%	99.11%	99.12%	89.14%	96.61%	0.039%	100.00%	15 days	
41	BSNL	1.38	97.90%	3.80	0.11%	1.08%	2.46%	100.00%	96.70%	97.60%	93.30%	97.30%	0.050%	100.00%	30 days	
42	Reliance Comm	0.22	99.50%	4.08	0.00%	0.00%	0.96%	99.11%	99.50%	99.50%	63.73%	76.23%	0.090%	100.00%	30 days	
43	Tata Teleservices	1.06	98.56%	12.00	NA	0.00%	0.78%	96.69%	100.00%	100.00%	93.20%	96.50%	0.100%	100.00%	30 days	

<b>viii</b>	<b>Haryana</b>															
44	IDEA Cellular	12.47	99.98%	9.81	0.54%	0.87%	0.97%	99.40%	100.00%	100.00%	92.00%	98.00%	0.088%	100.00%	30 days	
45	Vodafone Essar	4.20	99.96%	9.00	0.08%	1.36%	1.81%	96.74%	100.00%	100.00%	100.00%	100.00%	0.099%	100.00%	15 days	
46	BSNL	0.15	96.80%	4.10	0.80%	1.80%	2.80%	96.90%	100.00%	100.00%	80.00%	95.00%	0.010%	100.00%	30 days	
47	Bharti Airtel Limited	12.41	99.27%	2.90	0.30%	0.24%	1.05%	97.90%	99.23%	98.26%	93.60%	95.10%	0.040%	100.00%	30 days	
48	Reliance Comm	0.44	99.40%	4.20	0.00%	0.00%	1.11%	99.32%	99.50%	99.50%	57.92%	69.10%	0.070%	100.00%	30 days	
49	Tata Teleservices	2.47	97.56%	12.00	NA	0.02%	0.98%	97.15%	100.00%	100.00%	93.60%	95.70%	0.100%	100.00%	30 days	
<b>ix</b>	<b>UP - W</b>															
50	Vodafone Essar	0.00	99.95%	14.50	0.58%	1.83%	2.42%	95.24%	98.84%	98.85%	82.89%	90.49%	0.040%	100.00%	15 days	
51	IDEA Cellular	20.32	98.98%	11.90	0.71%	1.01%	1.32%	97.62%	100.00%	100.00%	88.00%	96.00%	0.072%	100.00%	30 days	
52	BSNL	0.00	99.00%	14.00	0.86%	1.88%	2.91%	99.20%	94.70%	99.30%	80.00%	95.00%	0.001%	100.00%	07 days	
53	Bharti Airtel Limited	23.40	97.45%	9.80	0.84%	0.62%	1.46%	96.02%	99.96%	99.99%	91.29%	94.02%	0.100%	100.00%	30 days	
54	Reliance Comm	0.51	99.52%	3.92	0.00%	0.00%	1.10%	98.95%	99.50%	99.50%	17.99%	22.24%	0.090%	100.00%	30 days	
55	Tata Teleservices	17.23	97.53%	15.00	NA	0.05%	1.30%	97.99%	100.00%	100.00%	96.90%	98.00%	0.050%	100.00%	30 days	
<b>x</b>	<b>UP - E</b>															
56	Bharti Airtel Limited	22.91	95.78%	14.92	0.88%	1.75%	1.69%	98.00%	99.95%	99.99%	94.35%	96.34%	0.090%	100.00%	30 days	
57	Vodafone Essar	0.00	96.58%	9.00	0.22%	1.61%	2.19%	96.69%	99.76%	99.85%	100.00%	100.00%	0.001%	100.00%	15 days	
58	IDEA Cellular	2.00	98.30%	12.00	0.40%	1.86%	1.02%	98.20%	99.90%	99.90%	97.00%	99.00%	0.238%	100.00%	30 days	
59	BSNL	21.00	96.00%	13.00	0.80%	1.80%	2.50%	96.00%	86.00%	97.00%	84.00%	96.00%	0.100%	100.00%	30 days	
60	Reliance Comm	0.41	99.43%	4.18	0.00%	0.00%	1.15%	99.21%	99.50%	99.50%	17.99%	22.24%	0.070%	100.00%	30 days	
61	Tata Teleservices	14.58	97.79%	12.00	NA	0.00%	1.35%	98.80%	100.00%	100.00%	97.10%	97.90%	0.060%	100.00%	30 days	
<b>xi</b>	<b>Rajasthan</b>															
62	Vodafone Essar	21.15	96.39%	9.83	0.91%	1.64%	1.54%	96.35%	99.67%	99.68%	96.54%	98.65%	0.095%	100.00%	15 days	
63	BSNL	21.15	97.30%	5.60	0.40%	1.40%	2.60%	97.40%	99.20%	99.60%	87.50%	96.60%	0.070%	100.00%	30 days	
64	IDEA Cellular	10.00	99.42%	11.13	0.63%	0.21%	1.44%	98.43%	NA	NA	95.00%	99.00%	0.740%	100.00%	30 days	
65	Bharti Airtel Limited	22.73	98.75%	9.00	0.98%	1.25%	1.43%	97.88%	99.96%	99.99%	98.27%	99.02%	0.040%	100.00%	30 days	
66	Reliance Comm	0.43	99.46%	3.91	0.00%	0.00%	0.93%	99.41%	99.50%	99.50%	31.23%	37.39%	0.050%	100.00%	30 days	
67	Tata Teleservices	9.01	98.10%	12.00	NA	0.13%	0.93%	98.47%	100.00%	100.00%	94.40%	96.40%	0.070%	100.00%	30 days	
68	Shyam Telelink Ltd	7.15	98.70%	6.00	0.70%	0.67%	0.67%	97.00%	NA	NA	86.00%	86.00%	0.090%	100.00%	30 days	
<b>xii</b>	<b>Madhya Pradesh</b>															
69	IDEA Cellular	22.29	97.80%	8.35	0.74%	1.16%	1.45%	99.03%	100.00%	100.00%	99.47%	99.96%	0.002%	100.00%	30 days	
70	Reliance Telecom	21.56	100.00%	7.18	0.59%	2.07%	1.39%	97.19%	97.00%	99.30%	94.00%	100.00%	0.000%	100.00%	01 day	
71	BSNL	1.96	95.20%	9.45	0.26%	1.35%	1.37%	97.57%	100.00%	100.00%	67.20%	77.50%	0.002%	100.00%	21 days	
72	Bharti Airtel Limited	22.65	97.40%	14.41	0.73%	1.12%	0.95%	98.58%	100.00%	100.00%	90.33%	94.74%	0.010%	100.00%	30 days	
73	Reliance Comm	0.30	99.36%	3.89	0.00%	0.00%	1.19%	99.03%	99.50%	99.50%	25.67%	34.52%	0.070%	100.00%	30 days	
74	Tata Teleservices	7.37	98.03%	12.00	NA	0.00%	0.99%	99.07%	100.00%	100.00%	89.80%	92.60%	0.040%	100.00%	30 days	

<b>xiii</b>	<b>West Bengal</b>															
75	Bharti Airtel Limited	0.00	95.37%	7.00	0.92%	1.74%	1.85%	100.00%	100.00%	100.00%	98.00%	99.00%	0.020%	100.00%	30 days	
76	Reliance Telecom	13.36	99.00%	8.44	0.55%	2.99%	1.55%	97.51%	NA	NA	94.34%	98.32%	0.000%	100.00%	01 day	
77	BSNL	0.00	98.38%	5.98	0.85%	1.70%	2.49%	98.74%	93.00%	99.00%	81.00%	96.00%	0.040%	100.00%	07 days	
78	Tata Teleservices	23.48	97.31%	15.00	NA	0.04%	1.13%	98.05%	91.10%	91.10%	83.30%	88.70%	0.080%	100.00%	30 days	
79	Reliance Comm	0.25	99.39%	4.15	0.00%	0.00%	1.21%	99.21%	99.50%	99.50%	26.41%	33.50%	0.030%	100.00%	30 days	
80	Vodafone Essar	0.00	99.95%	14.50	0.62%	0.76%	1.60%	96.00%	100.00%	100.00%	78.78%	87.26%	0.031%	100.00%	15 days	
81	Dishnet	0.00	98.12%	8.00	0.98%	0.94%	0.74%	99.35%	NA	NA	94.00%	94.00%	0.000%	100.00%	21 days	
	<b>C' Circle</b>															
<b>xiv</b>	<b>Himachal Pradesh</b>															
82	Bharti Airtel Limited	14.08	98.23%	4.06	0.13%	0.57%	1.80%	97.81%	99.95%	99.97%	96.90%	97.48%	0.080%	100.00%	30 days	
83	IDEA Cellular	3.15	99.55%	8.96	0.48%	1.00%	1.40%	98.89%	NA	NA	98.00%	100.00%	0.01	100.00%	30 days	
84	Reliance Telecom	21.08	98.70%	6.95	0.47%	2.27%	1.49%	96.04%	NA	NA	98.00%	100.00%	Nil	Nil	Nil	
85	BSNL	0.00	97.20%	5.70	0.90%	1.90%	2.90%	97.40%	98.50%	98.60%	81.60%	95.70%	0.000%	100.00%	30 days	
86	Reliance Comm	0.22	99.39%	4.07	0.00%	0.00%	0.90%	99.73%	99.50%	99.50%	63.73%	76.23%	0.020%	100.00%	30 days	
87	Tata Teleservices	3.28	97.98%	12.00	NA	0.02%	0.64%	96.59%	100.00%	100.00%	97.00%	98.00%	0.070%	100.00%	30 days	
88	Dishnet	0.00	98.56%	8.00	0.99%	0.97%	0.80%	99.16%	100.00%	100.00%	100.00%	100.00%	NA	N/Ap	N/Ap	
<b>xv</b>	<b>Bihar</b>															
89	Reliance Telecom	23.67	97.00%	7.57	0.77%	2.34%	1.46%	97.55%	NA	NA	NA	NA	0.000%	100.00%	N/Ap	
90	BSNL	10.00	98.60%	12.00	0.07%	1.40%	1.10%	98.00%	88.00%	96.00%	88.00%	98.00%	0.020%	99.88%	30 days	
91	Reliance Comm	0.23	99.57%	3.98	0.00%	0.00%	0.94%	99.07%	99.50%	99.50%	26.41%	33.50%	0.060%	100.00%	30 days	
92	Bharti Airtel Limited	17.16	90.00%	15.00	6.55%	2.94%	2.71%	95.20%	100.00%	100.00%	96.00%	97.00%	0.100%	100.00%	30 days	
93	Tata Teleservices	23.32	97.20%	12.00	NA	0.71%	1.03%	97.17%	97.60%	97.60%	84.90%	90.10%	0.060%	100.00%	30 days	
94	Dishnet	0.00	98.67%	8.00	0.97%	0.92%	0.84%	99.37%	100.00%	100.00%	93.48%	93.48%	Nil	N/Ap	N/Ap	
<b>xvi</b>	<b>Orissa</b>															
95	Reliance Telecom	164.03	98.61%	7.41	0.81%	2.20%	1.97%	96.57%	NA	NA	95.67%	100.00%	0.000%	N/Ap	N/Ap	
96	BSNL	13.00	98.00%	10.00	0.97%	1.93%	1.90%	98.00%	98.00%	97.00%	95.00%	97.00%	0.040%	100.00%	Nil	
97	Bharti Airtel Limited	0.00	95.37%	7.20	1.37%	2.20%	0.83%	98.01%	100.00%	100.00%	93.00%	95.00%	0.010%	100.00%	30 days	
98	Reliance Comm	0.13	99.70%	3.92	0.00%	0.00%	1.07%	99.64%	99.50%	99.50%	25.67%	34.52%	0.090%	100.00%	30 days	
99	Tata Teleservices	0.00	98.21%	12.00	NA	0.11%	1.03%	98.52%	96.50%	96.50%	86.20%	90.80%	0.050%	100.00%	30 days	
100	Dishnet	0.00	98.98%	8.00	0.98%	0.97%	0.83%	99.60%	Na	NA	96.00%	96.00%	0.032%	100.00%	30 days	
<b>xvii</b>	<b>Assam</b>															
101	Bharti Airtel Limited	2.75	98.10%	9.00	0.40%	1.65%	2.87%	97.90%	98.10%	99.40%	97.00%	98.00%	0.000%	100.00%	30 days	
102	BSNL	3.45	98.00%	12.00	0.60%	1.80%	2.75%	98.00%	93.00%	99.00%	80.00%	96.00%	0.050%	100.00%	30 days	
103	Reliance Telecom	10.67	97.00%	7.83	0.94%	2.83%	2.04%	92.80%	NA	NA	92.90%	98.18%	0.017%	100.00%	NA	
104	Dishnet	0.00	98.70%	8.00	0.67%	0.67%	0.80%	98.88%	NA	NA	94.22%	94.22%	0.001%	100.00%	30 days	

<b>xviii</b>	<b>J &amp; K</b>															
105	BSNL	0.00	98.00%	11.00	0.98%	1.97%	2.50%	96.00%	81.00%	95.00%	81.00%	95.00%	0.050%	100.00%	30 days	
106	Bharti Airtel Limited	19.50	98.30%	4.25	0.85%	0.90%	1.50%	96.10%	99.99%	100.00%	97.00%	100.00%	0.000%	100.00%	30 days	
107	Dishnet	0.00	98.25%	8.00	0.95%	0.98%	0.70%	99.70%	100.00%	100.00%	96.12%	96.12%	0.020%	100.00%	30 days	
<b>xix</b>	<b>NE</b>															
108	BSNL	10.00	96.00%	11.00	0.60%	1.10%	1.50%	97.00%	86.00%	96.00%	89.00%	97.00%	0.000%	100.00%	21 days	
109	Bharti Airtel Limited	1.25	97.13%	9.00	0.44%	1.72%	2.91%	95.66%	98.30%	98.70%	97.70%	99.00%	0.080%	100.00%	30 days	
110	Reliance Telecom	15.49	97.70%	7.49	0.84%	2.60%	1.77%	92.80%	NA	NA	83.00%	100.00%	0.001%	100.00%	NA	
111	Dishnet	0.00	98.91%	8.00	0.60%	0.64%	0.60%	98.95%	100.00%	100.00%	98.28%	98.28%	0.000%	100.00%	N/Ap	
	<b>METRO</b>															
<b>xx</b>	<b>Delhi</b>															
112	Bharti Airtel Limited	0.00	98.78%	13.50	0.27%	0.08%	1.10%	97.60%	99.90%	99.99%	99.75%	99.91%	0.110%	100.00%	30 days	
113	Vodafone Essar	0.00	99.09%	7.70	0.01%	0.02%	0.90%	97.68%	99.54%	99.56%	92.88%	83.52%	0.006%	100.00%	15 days	
114	MTNL	0.00	95.60%	12.00	0.25%	1.98%	2.24%	NA	99.00%	99.00%	84.80%	91.50%	0.090%	100.00%	30 days	
115	IDEA Cellular	0.00	98.98%	9.00	0.63%	1.64%	0.67%	97.34%	100.00%	100.00%	96.00%	99.00%	0.004%	100.00%	30 days	
116	Tata Teleservices	0.00	98.02%	12.00	NA	0.06%	0.52%	97.63%	100.00%	100.00%	90.20%	92.80%	0.040%	100.00%	30 days	
117	Reliance Comm	0.00	99.69%	4.07	0.00%	0.00%	0.52%	99.18%	99.50%	99.50%	42.31%	55.80%	0.050%	100.00%	30 days	
<b>xxi</b>	<b>Mumbai</b>															
118	BPL Mobile	12.32	99.50%	0.10	0.39%	1.48%	1.44%	98.59%	85.57%	NA	81.62%	95.69%	0.080%	100.00%	30 days	
119	Vodafone Essar	0.00	95.40%	10.00	0.70%	1.06%	1.77%	95.22%	99.68%	99.70%	93.94%	96.35%	0.002%	100.00%	15 days	
120	MTNL	0.00	96.37%	8.87	0.86%	1.83%	1.79%	96.22%	83.00%	96.66%	84.66%	96.33%	0.100%	100.00%	30 days	
121	Bharti Airtel Limited	0.00	95.36%	3.21	0.41%	0.61%	1.08%	96.25%	100.00%	100.00%	96.93%	98.13%	0.010%	100.00%	30 days	
122	Reliance Comm	0.00	99.54%	4.21	0.00%	0.00%	0.96%	99.53%	99.50%	99.50%	49.58%	66.60%	0.050%	100.00%	30 days	
123	Tata Teleservices	0.00	98.46%	13.00	NA	0.71%	0.35%	97.48%	100.00%	100.00%	38.00%	43.67%	0.410%	99.79%	30 days	
<b>xxii</b>	<b>Chennai</b>															
124	Aircel Cellular Ltd	0.00	98.10%	13.80	0.10%	1.93%	0.68%	95.00%	95.00%	100.00%	83.00%	100.00%	0.100%	100.00%	30 days	
125	Bharti Airtel Limited	0.00	97.54%	14.65	0.10%	0.24%	0.49%	95.12%	99.00%	99.00%	99.00%	99.00%	0.090%	100.00%	30 days	
126	Vodafone Essar	0.00	99.71%	11.01	0.04%	0.92%	0.91%	99.65%	99.86%	99.86%	94.39%	98.27%	0.077%	100.00%	15 days	
127	BSNL	0.00	98.60%	10.60	0.46%	1.39%	1.10%	100.00%	100.00%	100.00%	85.00%	90.00%	0.010%	100.00%	30 days	
128	Reliance Comm	0.00	99.59%	3.78	0.00%	0.00%	0.82%	99.66%	99.50%	99.50%	74.62%	80.64%	0.050%	100.00%	30 days	
129	Tata Teleservices	0.00	99.79%	12.00	NA	0.00%	0.66%	98.46%	100.00%	100.00%	89.10%	92.10%	0.040%	100.00%	30 days	
<b>xxiii</b>	<b>Kolkatta</b>															
130	Bharti Airtel Limited	0.00	96.67%	11.00	0.24%	0.30%	0.87%	96.95%	100.00%	100.00%	97.13%	99.00%	0.060%	100.00%	30 days	
131	Vodafone Essar	0.00	99.93%	14.50	0.39%	1.39%	0.83%	97.80%	100.00%	100.00%	85.39%	96.20%	0.033%	100.00%	15 days	
132	BSNL	0.00	95.87%	9.10	0.98%	1.24%	0.42%	98.60%	96.50%	99.00%	81.00%	84.00%	0.020%	100.00%	30 days	
133	Reliable Internet. Ser.	0.00	99.66%	8.14	0.18%	0.34%	1.17%	98.18%	96.50%	98.50%	95.00%	100.00%	Nii	N/Ap	N/Ap	
134	Tata Teleservices	9.18	98.17%	12.00	NA	0.07%	0.48%	97.35%	92.50%	92.50%	82.20%	88.50%	0.050%	100.00%	30 days	
135	Reliance Comm	0.00	99.54%	4.02	0.00%	0.00%	0.71%	99.38%	99.50%	99.50%	26.41%	33.50%	0.050%	100.00%	30 days	
	Service Providers not meeting the benchmarks NA=Data not available N/Ap = Not Applicable															

## Annex 5.3

### Quality of Service Performance for ISPs

Performance of Internet Service Providers on Quality of Service Parameters										
Sr. No.	Name of the Service Provider		Dial-up access						GOS on the link connecting to PSTN node to ISP	Mean time to Restore of faults resulting as per subs. complaints
			Service Activation time	Service Accessibility				ISP node unavailability in a month		
				Time to Access	Probability of accessing the ISP node (%)					
					1st Attempt	2nd Attempt	3rd Attempt			
6 hrs	30 Sec	80.00%	90.00%	99.00%	30 Min	1 in 100	3 days			
1	Bharat Sanchar Nigam Ltd.		0-4 hrs	15-30 Sec	92.00%	95.00%	100.00%	Nil	0.01	4 hrs
2	MTNL	Delhi	Online	30 Sec	99.67%	99.99%		Nil	0.01	5 Min
		Mumbai	Immediate	26 Sec	100.00%	100.00%	100.00%	Nil	0.005	15 Min
3	Sify Ltd.		3 Min	30 Sec	90.00%	95.00%	99.00%	20 Min	0.005	4 hrs
4	Bharti Airtel Ltd.		5 Min	<b>30-35 Sec</b>	99.81%	100.00%	100.00%	Nil	0.01	2 hrs
5	Reliance Comm. Infrastructure Ltd		Online	25 Sec	98.00%	100.00%	100.00%	Nil	NA	8 hrs
6	Videsh Sanchar Nigam Ltd.		2-4 hrs	30 Sec	80.00%	90.00%	99.00%	NA	Not given	3 days
7	Data Infosys Ltd.		2-3 Min	20-25 Sec	95.00%	97.00%	99.00%	30 Min	0.01	15 Min
8	You Telecom India Pvt. Ltd.		2 Min	20 Sec	98.00%	99.00%	100.00%	Nil	Not given	27 hrs
9	Hathway Cable & Datacom*		NA	NA	NA	NA	NA	NA	NA	NA
10	Asianet Satellite Communications		Immediate	10 Sec	98.00%	99.00%	100.00%	<b>&lt;1 hr.</b>	0.002	2 hrs
11	Hcl Infinet Ltd.		3.5 Min	9-25 Sec	99.60%	99.40%	99.60%	25 Min	0.01	17-19 hrs
12	Hfcl Infotel Ltd		NA	<b>40 Sec</b>	98.20%	100.00%	100.00%	NA	0.0085	4.28 hrs
13	Shyam Internet Services Ltd.		5 Min	20 Sec	98.50%	99.50%	99.99%	15 Min	<b>1</b>	1.5 hrs
14	PUNJ Lloyd/SPECTRANET*		NA	NA	NA	NA	NA	NA	NA	3 hrs
15	Beam Cable System*		NA	NA	NA	NA	NA	NA	NA	4.20 hrs
16	Hughes Communications*		NA	NA	NA	NA	NA	NA	NA	6.19 hrs
17	Hutch / Fascal Ltd*		NA	NA	NA	NA	NA	NA	NA	None
18	Tata Teleservices (Mh) / Hughes Telecom*		NA	25 Sec	99.00%	Nil	Nil	NA	0.01	1 hrs
19	Broadband Pacenet*		NA	NA	NA	NA	NA	NA	NA	3 hrs
20	Icenet.Net Limited		2 hrs	20 Sec	85.00%	95.00%	100.00%	Never	0.01	1 hrs

Note - NA= Service Providers have not provided the data. \* ISPs are not providing Internet Access on Dial-up. The Internet Access is provided through Cable TV/OFC (Hathway Cable & Data Pvt. Ltd.), Mobile via WAP setup (Fascal Ltd.) (Hughes), OFC (Spectra Net Ltd.), and Cable TV (Broadband Pacenet (I) Pvt. Ltd. These ISPs have been included in Top Twenty in India on the basis of number of Subscribers.

Shaded and Bold figures indicate not meeting TRAI stipulated benchmarks. It seems that most of the ISPs have met the QoS benchmarks barring a few cases in this quarter.



## Annex 5.2

# Quality of Service Performance for Broadband Service Providers

Name of Service Provider		VSNL	MTNL	MTNL	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	Airtel	HFCL	You Telecom	BSNL	SIFY	Asianet	Hathway	Hathway	Hathway			
Circle		All India	Mumbai	Delhi	Delhi	Haryana	Rajastha	Punjab	Kolkata	UP West	Up East	Chhenai	TN	AP	Karnatka	Kerla	Mumbai	Maharast	Gujarat	MP	Punjab	All India	All India	All India	All India	North Zon	South Zon	West Zone			
Sl	Parameters	Bench marks																													
1	Service Provisioning/ Activation Time	100% in =< 15 working days																													
1.1	No. of connections registered		52853	35786	37461	37922	1112	1964	5993	1507	2223	2893	14370	7577	7375	15253	1516	2967	2725	1462	37191	7098	11472	327563	16088	3850	2655	8918	2726		
1.2	%age of connections provided within 15 days of registration of demand	100%	99.33%	47.84%	96.11%	99.72%	99.21%	99.88%	98.81%	91.95%	97.58%	99.76%	95.53%	98.75%	94.73%	88.20%	92.68%	79.74%	72.00%	94.00%	99.21%	100.00%	100.00%	100.00%	92.00%	100.00%	97.00%	85.00%			
1.3	%age of connections provided after 15 days of registration of demand		0.67%	52.16%	2.43%	0.28%	0.79%	0.12%	1.19%	8.05%	2.42%	0.24%	4.47%	1.25%	3.96%	11.80%	7.32%	20.26%	28.00%	6.00%	0.79%	0.00%	0	0	0	5.25%	0.00%	2.6%	11.00%		
1.4	No. of customers to whom credit is given for delayed connections		DNF	0	0	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	0	0	0	0	0	0	0	0		
1.5	Total no. of connections provided during the period		52853	32637	36318	35371	1015	1649	5313	1366	1903	2495	14370	4899	7375	15253	1516	2468	2205	1371	28627	9673	11472	134959	16306	3771	2655	8130	2395		
1.6	Total no. of working connections at the end of the period		51472	250273	218974	624823	12074	9589	70375	13759	17127	26748	124465	124465	21772	98752	6496	9405	8132	7276	316674	33987	11472	976160	16088	22635	12191	8130	58188		
2	Faults Repair/Restoraion Time																														
2.1	Total no. of faults registered		398130	157852	130712	41616	435	594	2358	640	1088	1572	27279	7788	7064	4602	1302	1542	DNR	798	42689	6304	0	149711	3204	19460	17500	110050	8006		
2.2	% of faults repaired by next working day (>90%)	>90%	78.67%	32.33%	78.67%	94.97%	98.39%	97.98%	96.65%	98.59%	93.47%	93.64%	96.58%	99.18%	93.57%	79.83%	99.17%	95.91%	92.18%	97.00%	95.49%	93.67%	93.77%	92.00%	88.00%	91.66%	>95%	83.00%	90.03%		
2.3	% of faults repaired within 3 working day	=>99%	94.00%	84.83%	95.40%	98.78%	99.08%	99.66%	98.09%	99.22%	97.70%	98.03%	97.31%	99.61%	97.81%	83.25%	100.00%	99.48%	95.91%	99.70%	99.14%	99.00%	99.01%	100.00%	95.00%	99.20%	>=99%	82.00%	96.31%		
2.4	No. of customers to whom rent rebate is given in minimum monthly charges or equivalent usage allowance for delay in fault repair		0	DNR	3715	DNR	DNR	DNR	DNR	DNR	DNR	DNR	43	43	DNR	212	0	4	4	4	662	0	532	0	0	0	0	0	544		
	a. Rent Rebate of 7 days		0	DNR	3344	DNR	DNR	DNR	DNR	DNR	DNR	DNR	29	29		126	0	4	4	4	379	0	417	0	73	0	0	DNR	318		
	b. Rent Rebate of 15 days		0	DNR	359	DNR	DNR	DNR	DNR	DNR	DNR	DNR	5	5		41	0	0	0	0	140	0	90	0	14	0	0	DNR	152		
	c. Rent Rebate of One Month		0	DNR	12	DNR	DNR	DNR	DNR	DNR	DNR	DNR	9	9		45	0	0	0	0	143	0	25	0	0	0	0	DNR	74		
3	Billing Performance																														
3.1	Total no. of bills issued		197997	672361	502112	819742	33149	15546	114887	24513	31629	40845	725293	725293	76178	660635	83948	71330	42920	36818	1040029	81548	123834	2312053	DNR	54448	2302	30668	80193		
3.2	No. of bills disputed		4578	DNR	1056	481	17	18	147	25	29	54	203	203	135	263	115	24	10	5	234	490	335	5814	DNR	538	60	1340	944		
3.3	%age of bills disputed	<2%	2.31%	DNR	0.21%	0.06%	0.05%	0.12%	0.13%	0.10%	0.09%	0.13%	0.03%	0.03%	0.18%	0.04%	0.14%	0.03%	0.02%	0.01%	0.02%	0.60%	0.27%	0.25%	DNR	0.98%	2.60%	4.37%	1.18%		
3.4	%age of complaints resolved within 4 weeks	100% within 4 weeks	98.08%	DNR	99.37%	DNR	DNR	DNR	DNR	DNR	DNR	DNR	87.71%	87.71%	83.41%	90.79%	96.75%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	93.33%	100.00%	100.00%	DNR	100.00%	93.33%	100.00%	3.00%
3.5	%age of cases to whom refund of deposits is made within 60 days of closures	100% within 60 days	100.00%	DNR	100.00%	4.44%	1.33%	0.00%	5.75%	0.00%	4.27%	0.00%	99.33%	DNR	92.33%	100.00%	90.00%	100.00%	100.00%	100.00%	91.67%	10.07%	100.00%	100.00%	DNR	100.00%	100.00%	100.00%	97.00%		



2 In the following tables information on New introduced Pay Channels and Free to Air (FTA) channels converted into Pay Channels after 26.12.2003 indicates that there are 63 new pay channels/ converted FTA Channels to pay that have been launched since 26.12.2003. This is based on information reported by broadcasters in terms of clause 4 of the TRAI's Tariff Order of 1.10.2004 on broadcasting and cable services.

### **Information on New Pay Channels**

S.No	Name of the Channel	Name of Broadcaster /Distributor	New Pay Channel
1	ZOOM	Bennett, Coleman & Co	New Pay Channel
2	Hangama TV	Star India P Ltd	New Pay channel
3	Animax India	Set Discovery P Ltd	New Pay channel
4	Discovery – Travel & Living	Set Discovery P Ltd	New Pay channel
5	Star One	Star India P Ltd	New Pay channel
6	VH 1	Zee Turner Ltd	New Pay channel
7	Pogo (\$)	Zee Turner Ltd	New Pay channel
8	ESPN Plus	ESPN Software India Private Limited	New Pay channel
9	Toon Disney	Star India P Ltd	New Pay channel
10	Disney Channel	Star India P Ltd	New Pay channel
11	Zee Action (Action Cinema)	Zee Turner Ltd	New Pay channel
12	Zee Premier (Premier Cinema)	Zee Turner Ltd	New Pay channel
13	Zee Classic (Classic Cinema)	Zee Turner Ltd	New Pay channel
14	Zee Select (MX)	Zee Turner Ltd	New Pay channel
15	Awaaz	Zee Turner Ltd	New Pay channel
16	Zee Business News	Zee Turner Ltd	New Pay channel
17	Channel [V] International	Star India P Ltd	New Pay channel
18	NDTV Profit	Set Discovery P Ltd	New Pay Channel
19	ZEE SPORTS	ZEE Turner Ltd	New pay Channel
20	Adithya Music (\$)	M/s Channel Plus	New Pay Channel
21	Teja News (\$)	M/s Channel Plus	New Pay Channel
22	Times Now (\$)	M/s Times Global Broadcasting Company Ltd	New pay channel
23	SET PIX	M/s Set Discovery Private Limited	New Pay Channel
24	NEO Sports	M/s Nimbus Sports Broadcast Private Limited	New Pay Channel
25	NEO Sports Plus	M/s Nimbus Sports Broadcast Private Limited	New Pay Channel
26	TCN Turner Classic Movies	M/s Turner International India Pvt Ltd	New Pay Channel
27	Boomerang	M/s Turner International India Pvt Ltd	New Pay Channel
28	MAA TV	M/s MAA Television Limited	New Pay Channel

- Note:-
1. The distribution of Nick, Ten Sports and HBO changed hands and were pay channels as on 26.12.03.
  2. In respect of S.No's 11-14, the names in brackets are the new names
  3. \$ Not as Pay channels in Chennai

### **Information on Free to Air (FTA) channels converted into Pay Channels after 26.12.2003**

<b>S.No</b>	<b>Name of the Channel</b>	<b>Name of Broadcaster /Distributor</b>	<b>FTA Channel turned Pay</b>
1	UDAYA TV	Sun Network	FTA to Pay Channel
2	Ushe TV	Sun Network	FTA to Pay Channel
3	Udaya News	Sun Network	FTA to Pay Channel
4	MTV	Set Discovery P Ltd	FTA to Pay Channel
5	NDTV 24X7	Set Discovery P Ltd	FTA to Pay Channel
6	SAB TV	Set Discovery P Ltd	FTA to Pay Channel
7	ETV (\$) )	Ms Ushodaya Enterprises Limited	FTA to Pay Channel
8	ETV 2 (\$) )	Ms Ushodaya Enterprises Limited	FTA to Pay Channel
9	DAN Cinema	M/s Dan Television Private Limited	FTA to Pay Channel
10	DAN Music	M/s Dan Television Private Limited	FTA to Pay Channel
11	DAN Tamil OZHI	M/s Dan Television Private Limited	FTA to Pay Channel
12	EURO News	M/s Dan Television Private Limited	FTA to Pay Channel
13	TRACE TV	M/s Dan Television Private Limited	FTA to Pay Channel
14	BBC World	M/s BBC Worldwide India Private Limited	FTA to Pay Channel
15	Zee Kanada	M/s Zee Turner Limited	FTA to Pay Channel
16	Zee Telegue	M/s Zee Turner Limited	FTA to Pay Channel
17	Play TV	M/s Zee Turner Limited	FTA to Pay Channel
18	ETC Punjabi	M/s Zee Turner Limited	FTA to Pay Channel
19	ETC	M/s Zee Turner Limited	FTA to Pay Channel
20	Zee Music	M/s Zee Turner Limited	FTA to Pay Channel
21	Zee Jagran	M/s Zee Turner Limited	FTA to Pay Channel
22	Zee Smile	M/s Zee Turner Limited	FTA to Pay Channel
23	24 Ghante	M/s Zee Turner Limited	FTA to Pay Channel
24	Sahara One	M/s Sahara India TV Network	FTA to Pay Channel
25	Filmy	M/s Sahara India TV Network	FTA to Pay Channel
26	CNN IBN	M/s Global Broadcast News Limited	FTA to Pay Channel
27	SUN TV	M/s Sun TV Limited	FTA to Pay Channel
28	Udaya Movies	M/s Udaya TV Private Limited	FTA to Pay Channel
29	Udaya Vathegalu	M/s Udaya TV Private Limited	FTA to Pay Channel
30	Gemini Music	M/s Gemini TV Private Limited	FTA to Pay Channel

31	Gemini News	M/s Gemini TV Private Limited	FTA to Pay Channel
32	Gemini Cable Vision	M/s Gemini TV Private Limited	FTA to Pay Channel
33	ETV-Kanada	M/s Ushodaya Enterprises Ltd	FTA to Pay Channel
34	ETV-Oriya	M/s Ushodaya Enterprises Ltd	FTA to Pay Channel
35	ETV-Bangla	M/s Ushodaya Enterprises Ltd	FTA to Pay Channel

- Note:-
1. The distribution of Nick, Ten Sports and HBO changed hands and were pay channels as on 26.12.03.
  2. \$ Not as Pay channels in Chennai