

# **Telecom Regulatory Authority of India**

The Indian Telecom Services  
Performance Indicators Jan-Mar'04

**JUNE 2004**

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(i) **INTRODUCTION**

- 1.1 This report provides an update on the growth trends for the telecom services for the period **January-March 2004**. It presents a broad perspective on the Telecom Services to serve as a reference document for various stakeholders, research agencies and analysts as an update over the previous reports, which pertained to financial year 2002-2003 and first, second and third quarters of financial year 2003-2004. Due to the Unified Access Service Regime, the details under mobile services combine both Cellular & WLL (M). The Fixed Service details also include WLL(F). The summary of the growth pattern of Fixed, Mobile and Internet services in form of 'Quarterly results at a Glance' is given at the beginning of this compilation.
- 1.2 The information for this report has been collected from various telecom operators and service providers. TRAI collects performance-oriented data from various service providers on a quarterly basis to monitor the growth trend in the sector and to decide upon pro-active and suo motto measures to fuel the growth of the telecom services in the country. The data provided in this report is purely provisional and subject to change. TRAI regularly conducts review of its data collection programme to ensure that its processes remain appropriate/relevant in the rapidly growing telecom sector and are consistent with changing regulatory framework.
- 1.3 This quarterly report is available on the TRAI website ([www.traigov.in](http://www.traigov.in)) and will be updated on a quarterly basis. Some of the suggestions made by stakeholders have been considered for modifying the report. Any further suggestions pertaining to this may please be addressed to S. N. Gupta, Advisor (CN), TRAI; Tel. 26167914, Fax. 26103294 and e-mail: [traigov@bol.net.in](mailto:traigov@bol.net.in).

**(ii) Quarterly Results at a Glance**  
**Performance Indicators of Telecom Services for QE Mar 2004**

**A. Growth of Fixed & Mobile Services:-**

	FE 2002	FE 2003	QE Dec 2003	QE Mar 2004	%age growth over FE 2003 (12 months)	%age growth over last quarter (3 months)
<b>1) Subscriber's Base</b>						
(in millions)						
i) Fixed Line including WLL(F)	38.33	41.48	42.09	42.84	3.28	1.78
ii) WLL(M)	0.1	0.31	6.45	7.54	2332.26	16.90
iii) Cellular	6.44	12.69	21.99	26.15	106.07	18.92
iv) Mobile (Cellular + WLL (M))	6.54	13	28.44	33.69	159.15	18.46
<b>Gross Total</b>	<b>44.87</b>	<b>54.48</b>	<b>70.53</b>	<b>76.53</b>	<b>40.47</b>	<b>8.51</b>
<b>2) Traffic (MOU) (minutes of use/ sub/month)</b>						
i) Mobile (Cellular)	210	222	301	322	45.05	6.98
<b>3) ARPU (Rs./sub/ month)</b>						
i) Mobile (Cellular)	871	537	457	436	-18.81	-4.60
ii) Mobile (WLL (M))			460	382		-16.96
<b>4) Teledensity</b>						
Population in million (Estimated)	1048	1069	1084	1088	1.78	0.37
i) Fixed including WLL(F)	3.66	3.88	3.88	3.94	1.54	1.47
ii) WLL (M)	0.01	0.03	0.60	0.70	2313.87	17.64
iii) Cellular	0.61	1.19	2.03	2.40	102.17	18.31
iv) Mobile (Cellular + WLL (M))	0.62	1.22	2.62	3.10	154.92	18.16
<b>Gross Total</b>	<b>4.28</b>	<b>5.10</b>	<b>6.51</b>	<b>7.04</b>	<b>38.14</b>	<b>8.20</b>

**B. Growth of Internet Services:-**

	FE 2002	FE 2003	QE Dec 2003	QE Mar 2004	%age growth over FE 2003 (12 months)	%age growth over last quarter (3 months)
<b>1) Subscriber's Base (in million)</b>	3.42	3.64	4.14	4.55	25.00	9.90
<b>2) Minutes of Use (MOU)/ subs/month)</b>			399	400		0.25
<b>3) ARPU (Rs/subs/month)</b>			270	406		50.37
<b>4) Internet Telephony MOU (in Million)</b>			20.1	27.15		35.07

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

**(I) Fixed Line including WLL(F) Subscribers Base(in Million)**

<b>1) Basic Service Providers</b>	<b>FE 2003</b>	<b>QE Dec 2003</b>	<b>QE Mar 2004</b>	<b>%age growth over FE 2003 (12 months)</b>	<b>%age growth over last quarter (3 months)</b>
BSNL	35.90	35.71	36.11	0.58	1.12
MTNL	4.63	4.46	4.38	-5.40	-1.79
Tata/ Hughes	0.45	0.87	1.00	122.22	14.94
Bharti	0.37	0.57	0.64	72.97	12.28
Reliance	0.00	0.29	0.50	-	72.41
HFCL	0.08	0.10	0.12	50.00	20.00
Shyam	0.05	0.09	0.09	80.00	0.00
<b>Total</b>	<b>41.48</b>	<b>42.09</b>	<b>42.84</b>	<b>3.28</b>	<b>1.78</b>

**(II) Mobile (Cellular & WLL (M)) Services Subscriber Base (in Million)**

<b>Service Providers</b>	<b>FE 2003</b>	<b>QE Dec 2003</b>	<b>QE Mar 2004</b>	<b>%age growth over FE 2003 (12 months)</b>	<b>%age growth over last quarter (3 months)</b>
Reliance	0.54	6.24	7.26	1244.44	16.35
Bharti	3.07	5.5	6.50	111.73	18.18
BSNL	2.29	4.94	5.53	141.48	11.94
Hutch	2.16	3.77	5.15	138.43	36.60
Idea	1.28	2.24	2.73	113.28	21.88
BPL Group	1.13	1.54	1.88	66.37	22.08
Others	0.73	1.29	1.29	76.71	0.00
Spice	0.64	1.05	1.21	89.06	15.24
Escotel	0.59	0.83	0.99	67.80	19.28
Tata/ Hughes	0.16	0.56	0.63	293.75	12.50
MTNL	0.35	0.42	0.46	31.43	9.52
HFCL	0.03	0.03	0.03	0.00	0.00
Shyam	0.03	0.03	0.03	0.00	0.00
<b>Total</b>	<b>13</b>	<b>28.44</b>	<b>33.69</b>	<b>159.15</b>	<b>18.46</b>

**(iii) Cellular Services Subscriber Base (in Million)**

<b>2) Cellular Service Providers</b>	<b>FE 2003</b>	<b>QE Dec 2003</b>	<b>QE Mar 2004</b>	<b>%age growth over FE 2003 (12 months)</b>	<b>%age growth over last quarter (3 months)</b>
Bharti	3.07	5.50	6.50	111.73	18.18
BSNL	2.26	4.77	5.25	132.30	10.06
Hutch	2.16	3.77	5.15	138.43	36.60
Idea	1.28	2.24	2.73	113.28	21.88
BPL Group	1.13	1.54	1.88	66.37	22.08
Others	0.73	1.29	1.29	76.71	0.00
Spice	0.64	1.05	1.21	89.06	15.24
Escotel	0.59	0.83	0.99	67.80	19.28
Reliance	0.54	0.67	0.79	46.30	17.91
MTNL	0.29	0.33	0.36	24.14	9.09
<b>Total</b>	<b>12.69</b>	<b>21.99</b>	<b>26.15</b>	<b>106.07</b>	<b>18.92</b>

**(iv) WLL(M) Suscribers Base (in Million)**

<b>1) Basic Service Providers</b>	<b>FE 2003</b>	<b>QE Dec 2003</b>	<b>QE Mar 2004</b>	<b>%age growth over FE 2003 (12 months)</b>	<b>%age growth over last quarter (3 months)</b>
Reliance		5.57	6.47		16.16
Tata/ Hughes	0.16	0.56	0.63	293.75	12.50
BSNL	0.03	0.17	0.28	833.33	64.71
MTNL	0.06	0.09	0.10	66.67	11.11
HFCL	0.03	0.03	0.03	0.00	0.00
Shyam	0.03	0.03	0.03	0.00	0.00
<b>Total</b>	<b>0.31</b>	<b>6.45</b>	<b>7.54</b>	<b>2332.26</b>	<b>16.90</b>

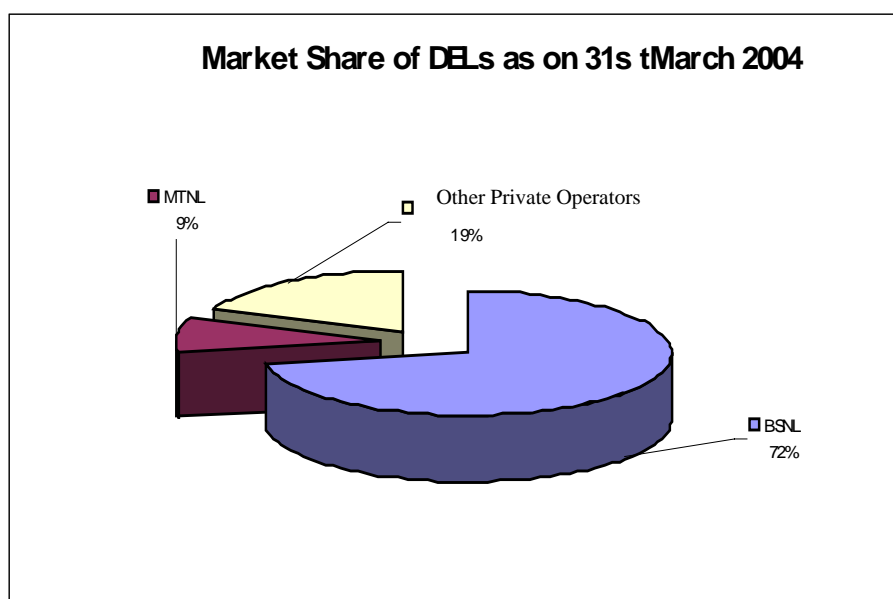
## CHAPTER ONE

### PERFORMANCE OF FIXED SERVICES

#### 1.1 SUBSCRIBERS BASE: -

1.1.1 As on 31st March 2004, the Fixed Service sector has 5 licensed private operators providing services in their respective licensed areas in addition to incumbents MTNL and BSNL. However all the 5 private Basic Service Operators have migrated to Unified Access Service License (UASL). As on 31st March 2004, the total subscriber base of fixed telephony [Including WLL (F)] stood at 42.84 millions. The operator wise subscriber base is given in Table 1.1.

1.1.2 The incumbents BSNL and MTNL have 72 % and 9% market share respectively in the subscriber base, while all the five private operators have 19% share. In the current quarter the share of private operators have increased by 2% and the share of BSNL has declined by 2% respectively.

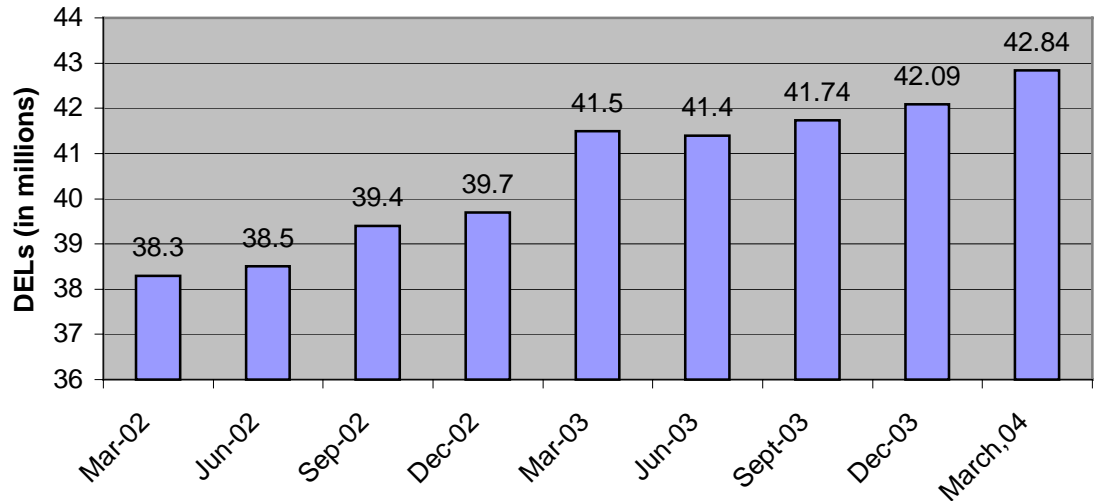


1.1.3 The Basic Service sector has registered a growth of 19,51,169 lines during the Quarter from 1<sup>st</sup> January 2004 to 31st March 2004. The actual number of DELs has increased from 4,84,35,177 as on 31<sup>st</sup> December 2003 to 5,03,91,070 as on 31st March 2004 [including WLL(M)]. The overall percentage of growth in subscriber base during the Quarter is 4.11%, which is lower than that of 4.61% recorded during the same quarter of last financial year i.e. Jan to Mar'03.

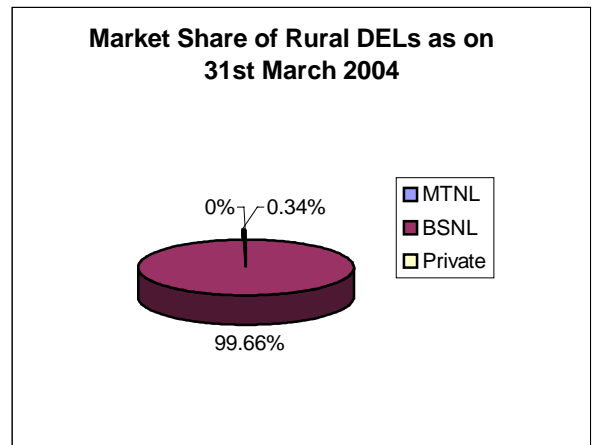
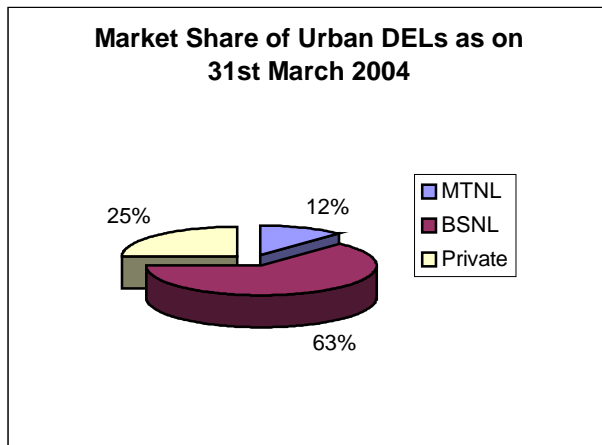


1.1.4 The subscriber base of the Fixed service sector for last nine quarters is depicted in the bar chart below:

**a) Subscriber Base for Fixed Line and WLL(F)**



1.1.5 The market share of Fixed Service operators (including Basic Service Operators who have migrated to Unified Access Service License) in Urban DELs and Rural DELs is depicted in the chart below:



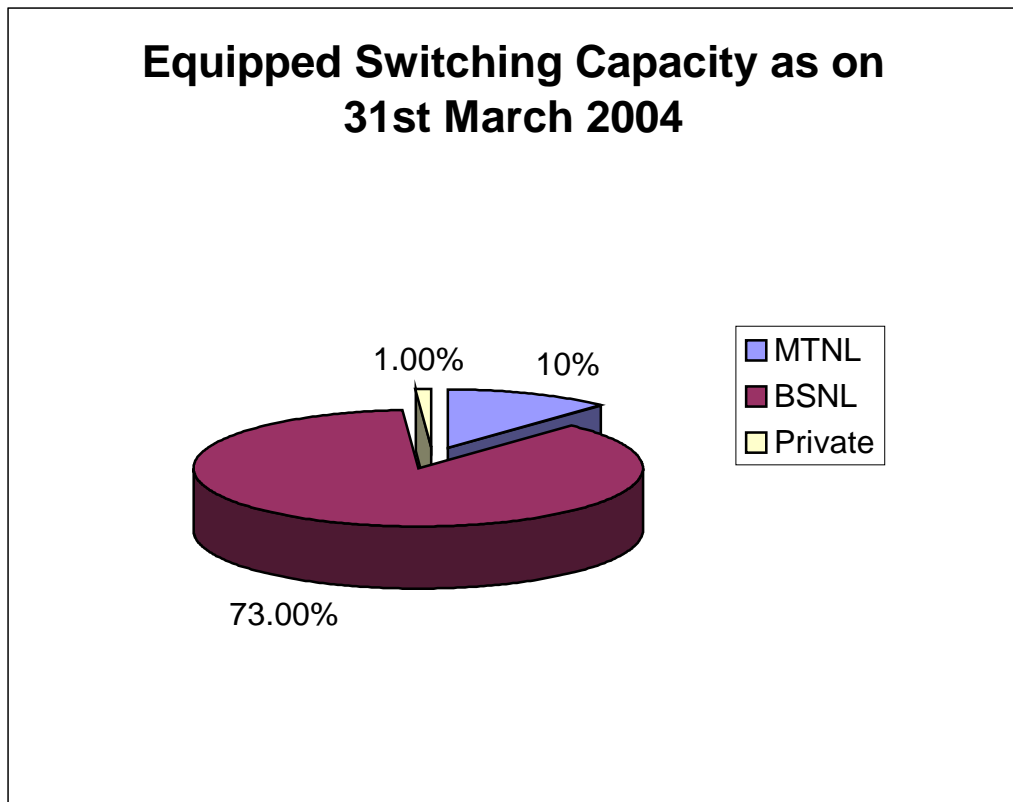
## 1.2 Other Performance Indicators: -

### 1.2.1 Switching Capacity:

Total equipped switching capacity of all the basic service operators (including Basic Service Operators who were migrated to Unified Access Service Regime) in the country as on 31st March 2004 is 6,33,62,609. BSNL

contribution is 4,63,36,818 i.e. 73 % of total capacity. The total equipped switching Capacity of MTNL is 65,52,539 i.e. 10 % of total capacity and that of all private operators is 1,04,73,252 i.e. 17% of total capacity by the end of the quarter.

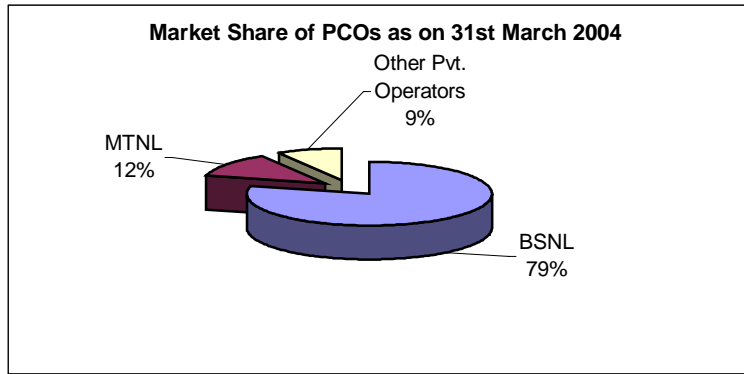
Operator wise (BSNL/MTNL/Other Private Operators) switching capacity as on 31st March 2004 is depicted in the chart below and Operator-wise details of the same is available at **Table 1.2**.



### 1.2.2 Public Call Office:

During the current quarter 1,31,436 new PCOs have been added. Total number of PCOs in the country as on 31st March 2004 is 19,24,178. The contribution of BSNL is 15,19,686 i.e. 79% of the total PCOs. The contribution of MTNL and other private operators is 2,39,654 (12 %) and 1,64,838(9%) respectively.

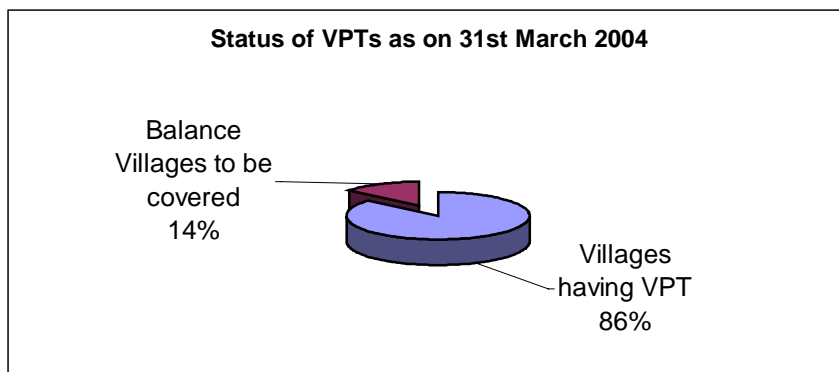
Operator wise (BSNL/MTNL/Other Private Operators) market share of PCO is depicted in the chart below. Operator wise details of PCOs is available at **Table 1.3**.



### 1.2.3. Village Public Telephones:

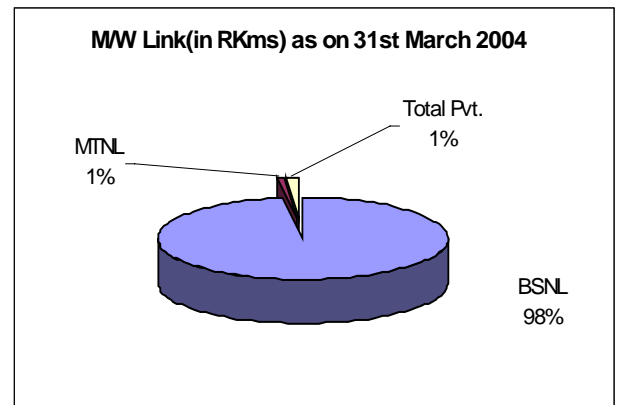
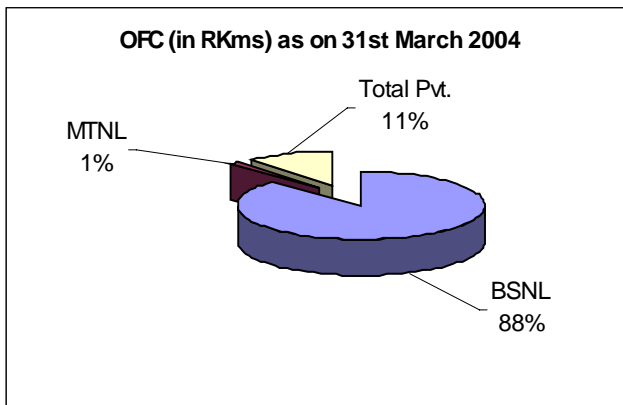
There are 6,07,491 villages in India. During the quarter ending 31<sup>st</sup> December 2003 there were 5,18,975 VPTs in the country whereas by the end of this quarter, the total number of VPTs marginally increased to 5,22,263. Thus 3288 VPTs have been added during the current quarter. The total number of villages left uncovered, as on 31st March 2004 are 85228. During the quarter BSNL has added 3382 VPTs . Among the private operators no more VPTs have been added during the quarter. However a marginal reduction in the number of VPTs has been observed in case of M/s Tata Teleservices (Maharashtra) Ltd. & M/s HFCL (Punjab) by 3 & 91 VPTs respectively . M/s HFCL have informed that out of 91 village phones, 4 subscribers opted for discontinuation of service of their own and the balance 87 were disconnected due to non-payment of dues.

Operator-wise details of village public telephones as on 31st March 2004 and achievement during the quarter i.e. quarter ending 31st March 2004 is available at **Table 1.4**



1.2.4 Transmission Network Infrastructure:

Following charts depict the Transmission Network Infrastructure (Optical Fiber Cable and Microwave Link in RKms) available with Basic Service Operators (including Basic Service Operators who were migrated to Unified Access Service Regime). Operator wise details of the same as on 31st March 2004 and addition made during the Quarter are available at **Annex 1.1**.



## Chapter Two

### Performance of Mobile Services

**Subscriber Base crosses 33.5 million. Annual Growth 160%**

#### PART A

##### 2.1 Growth of Subscribers Base: -

###### 2.1.1 Subscribers Base

The Cellular Industry has achieved 33.69 million GSM subscriber mark at the end of quarter ending on 31-3-2004. The subscriber base stood at 33.69 millions as against 28.44 millions at the end of December 2003.

###### 2.1.2 Addition in Subscribers Base

Approximately 5.25 lakhs subscribers were added during January-March, 2004 quarter as against 5.41 lakhs subscribers added during the previous quarter.

###### 2.1.3 Growth Rate

All India growth rate in the quarter ending March.2004 is 18.46% as compared to 23.64% during the quarter ending December,2003.

###### 2.1.4 Entry of 3<sup>rd</sup> and 4<sup>th</sup> Operator

BSNL has started its services in Assam during this quarter. BSNL as third operator is providing its cellular services in 21 circles by the end of this quarter. M/s Hutchison Essar has started its services in Punjab during this quarter and is operating in 11 circles with acquisition of 3 service areas of M/s Aircel Digilink India Limited.

###### 2.1.5 Company wise Market Share:

- a) The market share of different Mobile operators is given in Table 2.1. The top five Mobile operators on the basis of market share are as under: -

**(In Lakhs)**

<b>Service provider</b>	<b>March '04</b>	<b>%age share on March'04</b>
<b>Reliance</b>	72.64	21.6
<b>Bharti</b>	65.04	19.3
<b>BSNL</b>	54.56	16.2
<b>Hutchison</b>	51.48	15.3
<b>Idea</b>	27.32	8.1

The details of operator-wise subscribers of Cellular and WLL(M) are given in Table 2.2.

- b) Distribution of Subscriber Base (Cellular only) as on March'04 among Metro, Circles A to C is given below and quarterly growth pattern is given in Table 2.3.

### **2.1.6 Change in Market Structure**

BSNL has started its services in 4 circles namely Assam, Chennai, Jammu & Kashmir and North East and now it is the largest operator (in terms of number of circles) providing services in 21 circles in India. M/s. Aircel Digilink India Ltd has been taken over by M/s. Hutchison Group, M/s. Escorts Ltd's Punjab Circle operations has also been over taken by M/s. Hutchison and now they are providing services in 11 Circles after BSNL and Bharti. The name of RPG Limited has been changed as M/s. Aircel Cellular Ltd in Chennai.

## **PART B**

### **2.2 Mobile [Cellular and WLL (M)] Services Trends: -**

#### **2.2.1 Highlights:**

- Share of prepaid subscribers in total mobile (cellular) subscriber base is 75% at the end of March 2004 as against 77.7% at the end of December 2003.
- Postpaid subscriber base has witnessed a faster growth at 23% in mobile (cellular) service than the prepaid subscriber base at 17% during the quarter under review.
- All India ARPU for Mobile services for the quarter is Rs. 424 per month as against Rs. 457 per month during the previous quarter. All India ARPU per month for cellular alone is Rs. 436 and for WLL (M) is Rs. 382.
- BSNL/MTNL's ARPU per month for Cellular Mobile services during the quarter ending March 2004 is Rs. 453 as against Rs. 431 for the private operators.
- The all India postpaid ARPU at Rs. 930 per month is about 3.36 times that of all India prepaid ARPU at Rs. 277.
- MOU per subscriber per month for Cellular service during the quarter ending March 2004 is 322 as against 301 during the previous quarter, thereby showing an increase of about 7%.
- The ratio of incoming – outgoing calls in cellular traffic is 66:34 during this period.

- Domestic SMS charge per message ranges between Rs. 0.25 to Rs. 1.50. Lowest rate of Rs. 0.25 is being offered by MTNL.
- Overall proportion of roaming revenue combined for both post-paid and pre-paid to the total revenue for cellular operators is 11.11%.
- The largest proportion of prepaid subscribers is in Metros, followed by Circle B, Circle C and Circle A. Sharp reduction in proportion of prepaid subscribers in Circle C from 82% to 76%.
- The highest growth rate of postpaid subscription at 57% during January 2004 to March 2004 has been noticed in Circle C, followed by Circle B (25%).
- The highest growth rate of prepaid subscription at 22% has been noticed in Circle B, followed by Circle A (20.6%).
- Trend of postpaid growing at a higher rate than prepaid is maintained. Prepaid subscriber base have experienced a growth of 17.39% during the quarter, whereas, postpaid subscriber base have experienced a growth of 23.33%.

#### **2.2.2 Distribution of Mobile market between Private & Govt. Owned operators**

As on 31<sup>st</sup> March 2004, there were 33.7 Million Mobile subscribers as against 28.44 Million at the end of December 2003. Graph & table given at Annex 2.3 shows the trend in the market share of govt. owned operators vs. private operators.

Market share of Private operators, is continuously showing an upward trend.

#### **2.2.3 ARPU – Cellular Service**

The all India blended ARPU per month of Cellular Service for the quarter has declined by 5% from Rs. 457 during the last quarter to Rs. 436 in the quarter ending Mar-04. Highest decline in ARPU is in Circle B (about 8.20%) from Rs. 430 to Rs. 395. An increase in ARPU is seen in Metros of 1.30% from Rs. 475 to Rs. 482. The lowest blended ARPU is in Circle B (Rs. 395) and the highest is in Metro (Rs. 482). The all India postpaid ARPU at Rs. 930 per month is about 3.36 times that of all India prepaid ARPU at Rs. 277. The difference between postpaid ARPU and prepaid ARPU is maximum in Metro. In postpaid stream, ARPU of BSNL/MTNL is about 33% lower than that of private operators. On the other hand, in prepaid stream, ARPU of BSNL/MTNL is about 22% higher than that of private operators. The details are at Annex 2.4.

#### **2.2.4 Composition of Revenue of Cellular Service Providers**

##### **i) Post-Paid**

Proportion of rental revenue to the total revenue has declined from 29.72% in December 2003 to 27.91% in March 2004. The revenue from call charges has increased by 3%. Proportion of roaming revenue has also increased marginally from 19.87% to 20.58%.

ii) Pre-Paid

The revenue from call charges has slightly declined from 67.50% to 65.95% in prepaid. The proportion of roaming revenue in total revenue for private operators has increased from 0.89% to 1.06% in respect of prepaid service. (Annex. 2.4).

**2.2.5 Usage Pattern in Cellular Service**

Minutes of Use (MOU) per subscriber per month for Cellular service during the quarter ending March 2004 is 322 as against 301 during the previous quarter, showing thereby an increase of about 7%. The incoming-outgoing call ratio is 66:34. An increase in the proportion of incoming calls (from 62% to 66%) has been noted during the quarter. The highest MOU is observed in Circle B at 340 and the lowest in Circle C at 275. In the postpaid platform, highest MOUs per subscriber has been observed in Metros at 678. The lowest MOU per subscriber in prepaid segment has also been seen in Metro at 202. (Annex 2.5).

**2.2.6 Revenue per Minute (RPM) – Cellular Service**

Revenue realization per minute [Gross revenue/total MOU(I/C + O/G)] - Cellular Service (during the quarter ending Mar-04)

	[ in Rs.]		
<b>Circle</b>	Revenue Realized Per minute in Postpaid	Revenue Realized Per minute in Prepaid	Blended Revenue realized per minute
Circle A	1.37	1.20	1.31
Circle B	1.48	0.97	1.16
Circle C	1.89	1.50	1.63
<b>Metro</b>	1.95	1.28	1.60
<b>All India</b>	<b>1.59</b>	<b>1.12</b>	<b>1.35</b>

On an average, the gross revenue realization per minute for cellular service providers on all India basis stood at Rs.1.35 as against Rs. 1.52 during the previous quarter, thus showing a decline of 11% during the quarter.

**2.2.7 Minimum effective charge for local calls (Rs. per minute)**

The minimum effective per minute local call charge is arrived by analyzing all the reported tariff plans for cellular as well as WLL (M) assuming the monthly usage of 400 minutes (I/C & O/G).

<b>Service</b>	<b>Sept-03</b>	<b>Dec-03</b>	<b>Mar-04</b>	<b>% decline over the last quarter</b>
Mobile	0.67	0.57	0.44	22.81%

This indicates a continuous decline in the effective charge.



Assumptions:

- 1) Outgoing usage has been distributed in 70:25:5 for Fixed: Cellular: WLL (M).
- 2) 70:30 ratio has been applied for peak: off-peak hours.
- 3) 60% of the total usage has been attributed to incoming calls.
- 4) Average holding time for local calls has been taken as 2 minutes.
- 5) Interest on security deposit & advance month rental has been take @ 8% p.a.

There has been a decline of 22.81% in minimum effective charge for mobile service.

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## Chapter Three

### Performance of Internet Services

Subscribers base crosses 4.5 million mark.

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

Around 189 Internet Service Providers were operational during quarter ending March 2004. Bharat Sanchar Nigam Ltd (BSNL) has retained its top position and reported a subscriber base of 1128172 against 10,04,246 during the last quarter. Mahanagar Telephone Nigam Limited (MTNL) follows it with a subscriber's base of 7,69,434 against 6,91,717 subscribers during the last quarter and retained its second position. (ref Table 3.1).

The reported subscriber base has touched 45.49 lakhs as on quarter ending 31<sup>st</sup> March 2004 as compared to 41.38 lakhs during the preceding quarter registering an increase of 9.93 % during the quarter.

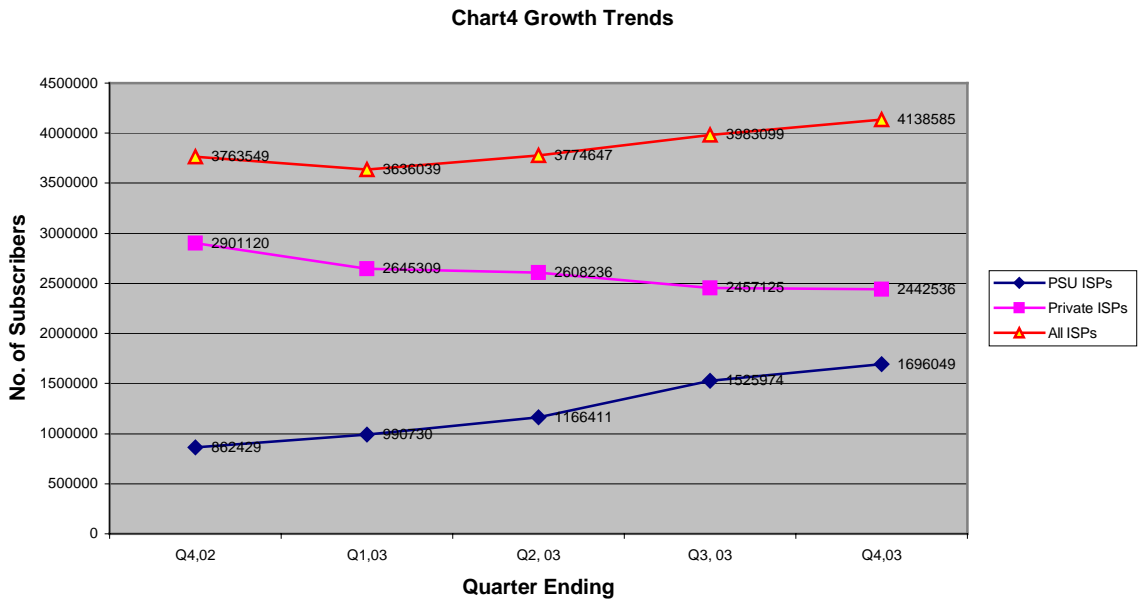
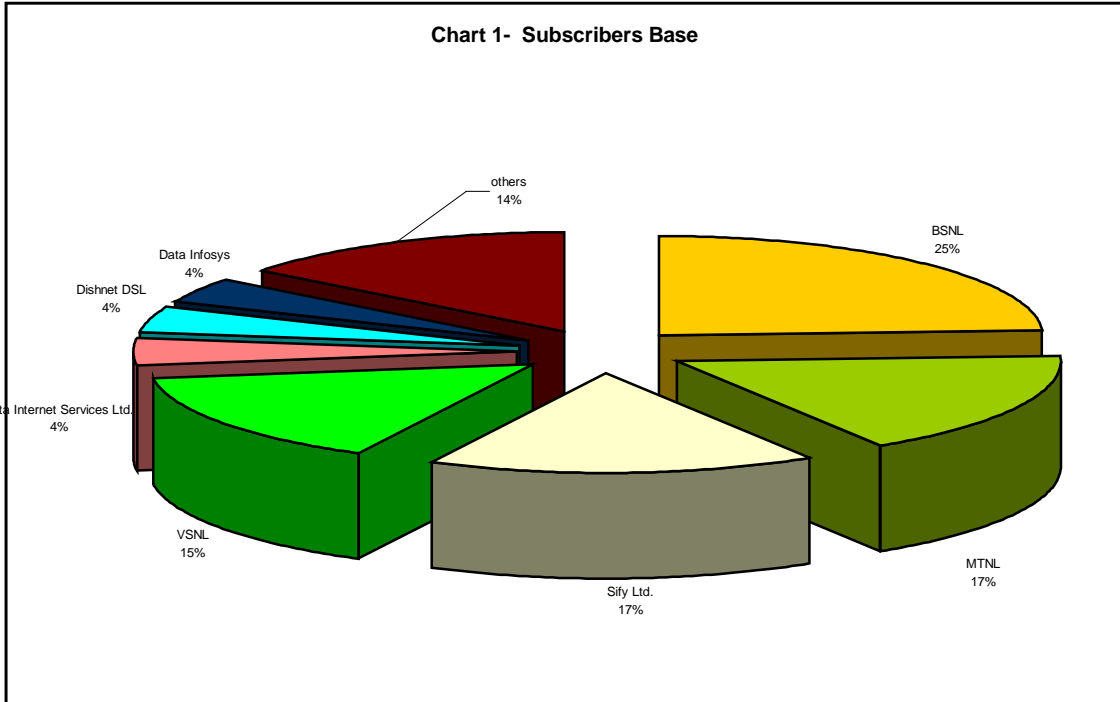
#### 3.2 Internet Telephony: -

The Internet Telephony was thrown open for Internet service provider's w.e.f 1<sup>st</sup> April'02. DOT has given permission to 121 ISPs to offer Internet Telephony services as on 31<sup>st</sup> March 2004 and as per the report submitted to TRAI, 43 ISPs have started Internet Telephony services and total minutes of the usage for Internet Telephony during the quarter were 27.15 million as compared to 20.1 million in previous quarter. This shows a growth of 30% over the previous quarter.

#### 3.3 Market Share: -

Bharat Sanchar Nigam Ltd (BSNL) has retained its top position and reported a subscriber base of 11,28,172 against 10,04,246 during the last quarter. Mahanagar Telephone Nigam Limited (MTNL) follows it with a subscriber's base of 7,69,434 against 6,91,717 subscribers during the last quarter and retained its second position. M/s Sify Ltd. has retained its third position during the quarter and has reported a subscriber base of 6,581,92. Videsh Sanchar Nigam Limited (VSNL) has retained its fourth position and reported a subscriber base of 6,00,509 during the quarter ending March 2004. Dishnet DSL has moved from sixth place to fifth place during the quarter and reported a subscriber base of 2,64,631.

Share of PSU ISPs has shown an increase of 91.62% over the last year, increasing the number of subscribers from 990730 as on March, 2003 to 18,98,470 as on March 2004. During the same time the share of Private ISPs have shown a marginal increase of 0.22% from 26,45,309 as on March, 2003 to 26,51,148 as on March,2004.



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

The leased line customer base has risen to 12,782 as compared to 8888, in previous quarter, showing a growth of 44% over previous quarter.

### **3.5 Cafes/Community Internet Centres (CIC): -**

There are reported to be 10,237 Cyber Cafes/ CICs during March 2004 as compared to 8850 in December 2003.

### **3.6 High Speed Connectivity: -**

On the Broadband front, there are 97,525 DSL customers, 5308 DIAS and 2948 radio-based customers, in addition to 82805 subscribers, who access the Internet through Cable TV network. The broadband connections have shown a growth of 28% over the previous quarter, totalling about 1.90 lakhs connection.

### **3.7 Minutes of use per subscriber: -**

As reported by 44 ISPs the average minutes of use per subscriber/ month is approximately 400 minutes.

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

A total of approx. Rs 537 crores revenue has been reported during the quarter. The Average Revenue Per User (ARPU) per month for Internet usage was of the order of Rs 406.

### **3.9 International connectivity: -**

The bandwidth owned by various IGSP for their ISP operations and Leased lines was 3.4 GB for downlinking and 3.0 GB for uplinking.

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## Chapter Four

### Performance of Other Value Added Services

VSAT Service accelerates the growth rate

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

Public Mobile Radio Trunked Service (PMRTS) is being provided by 15 operators in 19 service areas.

##### 4.1.1 Performance during the Quarter Ending 31<sup>st</sup> March 2004:

- The subscriber base of PMRTS increased from 24666 in December 2003 to 25474 in March 2004 registering a growth rate of 3.17%.
- After a gap of 4 quarters from Sept.,2002,the PMRTS industry has registered a modest growth in the last two quarters.
- Delhi, Mumbai, Bangalore and Chennai together account for 70% of market share of the total subscribers. Delhi leads the tally with the market share of 8684 subscribers followed by Mumbai and Bangalore with the market share of 3139 and 3240 subscribers respectively.
- Procall Ltd. leads the tally of subscribers with a subscriber base of 7361 followed by Arvind Mills and Quick Calls Pvt. Ltd with a subscriber base of 6181 and 3590 respectively.
- Out of 19 service areas, the subscriber base of 14 service areas has increased in the quarter ending 31<sup>st</sup> March 2004 as compared to 11 service areas in the previous quarter ending 31<sup>st</sup> December 2003. These service areas are Mumbai, Bangalore, Chennai, Kolkatta, Vishakapatnam, Surat, Vadodra, Gurgaon, Navi Mumbai Belapur, Indore, Pune, Ahmedabad, Faridabad and Jaipur.
- Like in the last quarter, in the present quarter also Bangalore has added maximum number of subscribers (496). This is followed by Chennai (139) and Pune (100). The biggest negative growth during the quarter is in Navi Mumbai Vasi (108) followed by Delhi (100).
- In the present quarter, Mobilkom India Ltd. has terminated their service in Dhanbad.
- Hofintel and ITI Ltd. have not submitted their report since quarter ending June, 2003.

4.1.2 The subscriber base of the PMRTS industry as on 31<sup>st</sup> March 2003 was 26027. At the end of the year 2003-04, as on 31<sup>st</sup> March 2004, the subscriber base stood at

25474. Thus, during the year 2003-04 there was a decline in subscriber base by 553 or there was negative growth of 2.12%. The subscriber base of service providers of PMRTS is given in Table 4.1.

#### **4.2 VSAT services: -**

VSAT services are being provided by 11 VSAT service providers.

##### **4.2.1 Performance during the quarter ending 31<sup>st</sup> March 2004:**

- In the present quarter, there was an addition of 4271 new subscribers. The total number of subscribers increased from 23330 in December 2003 to 27601 in March 2004 registering a growth of 18.31%.
- Hughes Escorts Communications Ltd. (HECL) remained the market leader with 8395 VSAT subscribers followed by HCL Comnet with 8376, Comsat Max with 4210 and Bharti BT with 3829 VSAT subscribers respectively.
- HCL Comnet added the maximum number of new connections 2543 with a growth rate of 43.60%.

4.2.2 The number of subscribers of each service providers from quarter ending 30<sup>th</sup> June 2003 to 31<sup>st</sup> March 2004 along with the Market Share in terms of Percentage of Subscribers as on 31.03.2004 is given in Table 4.2.

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## Chapter Five

### Quality of Service (QoS) Performance

#### 5.1 Quality of Service performance of Basic Service Operators for the Quarter Ending March 2004

Based on Quality of Service Parameters reported by Basic Service Operators for the quarter ending March 2004, the information on QoS parameters is attached to this report as Annex 5.1.

From perusal of the report (Annex 5.1) following points emerges.

- (1) Provision of telephone within 7 days for exchange areas declared “ On Demand”. Information regarding DELs added in the licensed service area covering exchanges declared “on demand“ has not been furnished by BSNL, MTNL, Reliance and Tata (MH). Therefore this parameter can not be calculated for these service providers. The performance of Bharti (Delhi, Karnataka), Tata (TN, Karnataka) is (64%, 60%), (70%, 19%) respectively, which is way below the benchmark of 100%.
- (2) Fault incidences (should be less than 3 Faults per 100 phones per month) BSNL, MTNL, HFCL & Shyam Telelink Ltd. have failed to meet the specified QoS benchmarks. MTNL, Delhi has the worst figure of 22.1 faults/per 100 subscriber/per month.
- (3) Percentage of faults repaired by next working day ( should be >90%) 17 out of 26 circles of BSNL have met the QoS benchmark on Fault Repair by next working day. MTNL (Delhi & Mumbai) has failed to meet the specified QoS benchmarks. All the private service providers have met the stipulated benchmark.
- (4) Mean Time to repair (MTTR) ( should be <8hrs.) Only 6 out of 26 circles of BSNL have met the benchmark. MTNL (Delhi & Mumbai) has failed to meet the benchmark. All private BSOs except HFCL have met the benchmark in their respective circles.
- (5) Grade of Service for junction between local exchanges (should be < 0.002) Grade of Service not reported by BSNL. MTNL (Mumbai) has not achieved the desired benchmark. Among the private operators Tata (Delhi, Maharashtra, Tamil Nadu), Bharti (Delhi, TN, Haryana) and Reliance in all circles except Tamil Nadu have not met the stipulated benchmark.
- (6) Call Completion Rate in local network (should be >65%) 8 out of 26 circles BSNL and MTNL (Mumbai) have met the OoS benchmark in their circles. Among the private Operators HFCL (Punjab), Tata (AP), Shyam Telelink (Rajasthan), Bharti (MP), & Reliance (5 Circles out of 21) have achieved the desired QoS benchmark.
- (7) Metering and Billing credibility (Not more than 0.1% of bills should be disputed over a billing cycle) Only 4 out of 26 circles of BSNL have not met the overall QoS benchmark on disputed bills. These circles are MP, A&N, NE-II & OR. MTNL (Delhi) has also not met the same. Among the Private Operators HFCL (Punjab), Bharti (MP, Delhi, Haryana), & Reliance (HP, UP-W, WB) have met the QoS benchmark.

(8) Operator Assisted Trunk Calls (Urgent calls should be answered within 1 hr and Ordinary calls within 2 Hrs.)

For urgent operator assisted calls BSNL (except Chhatisgarh) and MTNL have failed to meet the benchmark in all the circles. Among the private operators only TATA (Gujarat) have met the QoS benchmark.

For Operator assisted ordinary trunk calls BSNL & MTNL have failed to meet the QOS benchmark. Among the private operators only TATA (Gujarat & Karnataka) has met the benchmark. Reliance has reported this parameter as “not applicable”.

(9) Customer Care: Promptness in attending 95% of customers requests (Benchmarks for Shifts, Closures and providing additional facilities are <3 days, <24 hours and <24hours respectively)

(i) Shifts:-

BSNL have failed to meet the requirement on customer care (Shift). MTNL have also failed to meet the requirement on Customer care. Among the private operators only Reliance have met the QOS benchmark on Customer Care (Shifts).

(ii) Closures:-

As regards ‘Closures’ these figures are not available for BSNL. MTNL (Delhi & Mumbai) has not met the benchmark. Among the private operators only Tata (GJ) & Bharti (TN) have met the benchmark.

(iii) Additional Facility:-

BSNL has not reported the figure for additional facility. MTNL(Delhi and Mumbai) have failed to meet the benchmark. Among the private operators Bharti (Delhi, MP, Haryana, Karnataka), and Tata (AP, Delhi, Maharashtra, Tamil Nadu, Karnataka) have not met the QoS benchmark.

Reliance has reported 100% promptness in all circles for attending customer requests regarding shifts, closures and additional facilities.

(10) Percentage of repeat faults (should be <1%)

In case of Repeat faults, BSNL in all circles except Chattisgarh & MTNL (Delhi & Mumbai) have failed to meet the benchmark. Among the private Operators only Reliance, Shyam Telelink, Bharti(TN), and Tata (GJ, Delhi) are within TRAI’s benchmark limits.

## **5.2 Quality of Service performance of Cellular Mobile Service Providers: -**

In this quarter all Cellular Mobile Service Providers (except Aircel Digilink UP-East) have submitted their QoS reports to TRAI.

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



**Table A**

Sr. No	Parameter	Benchmark	No. of operators not meeting benchmarks	
			This Quarter	Previous Quarter
			Out of 69	Out of 70
1.	No. of faults (per 100 subscribers/per month)	<1	9	8
2	Faults cleared within 24 hrs	100.00%	26	26
3	Accumulated down time of community isolation	<24 hrs	13	11
4	Call Success Rate (within licensee's own network)	>99%	24	27
5	Service Access Delay	Between 9 to 20 Sec	0	0
6	Call Drop Rate	<3.0%	1	6
7	% of connection with good voice quality	>95%	8	11
8	Complaints per 100 bills issued	<0.1%	23	20
9	% of complaints resolved with 4 weeks	100.00%	10	14
10	Period of all refunds/payment due to customers from the date of resolution of complaints as in (ii) above	<4 weeks	3	6

## 5.2.1

The analysis of performance is as under: -

- i) From the above table, it is observed that out of ten, in only four parameters viz. Call Success Rate, Call Drop Rate, %age of connection with good voice quality and %age of complaints resolved within 4 weeks, the operators have improved their performance as compared to last quarter.
- ii) For the parameter "Fault cleared within 24 hrs" the performance of BSNL (MH, HP, J&K.), Haxacom (RAJ), Aircel Digilink (Raj) and BPL (MH) was 31%, 77.58%, 0.90%, 67.52%, 52% and 59% respectively, which is way below the stipulated benchmark of 100%.
- iii) The Call Success Rate for BSNL, J&K was 48% which is very low.
- iv) No. of Complaints per 100 bills issued for BSNL (MH, Karnataka, Tamil Nadu, Kerala, Punjab) is 2%, 1%, 1.24%, 1.7%, 2.69% which is way below the benchmark of 0.1%.
- v) The parameter "%age of Billing Complaints Resolved within 4 Weeks" for Aircel (TN), BPL Mobile (Mumbai) & MTNL (Mumbai) is 45 Days, 40 Days & 42 Days respectively which is below the stipulated benchmark of <4 weeks.

5.2.2 Details of Quality of service:

Detail of parameters related to fault incidence and repair, network performance and billing complaints are available at Annex 5.2.

**5.3 Quality of Service Performance of Internet Service Providers:**

5.3.1 TRAI notified Regulation on Quality of Service of Dial-up And Leased Line Internet Access service in December, 2001, fixing benchmarks for Internet Dial Access that were required to be achieved by ISPs within 6 months. Accordingly, ISPs are required to comply with the benchmarks and report the QOS in their Quarterly Performance Monitoring Reports.

5.3.2 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 are able to meet the benchmarks, barring one or two cases.

5.3.3 The observations on QOS Benchmarks is as follows:

5.3.3.1 Service Activation Time:

All the ISPs except M/s BSNL have met the benchmark of 6 hrs.

5.3.3.2 Time to Access:

All the ISPs except BSNL and Trak Online Net have met the stipulated benchmark of 30 seconds.

5.3.3.3 Probability of Accessing the ISP Node:

ISPs are required to maintain the parameter of 80% for the first attempt, 90% for the second attempt and 99% for the third attempt. All the ISPs are able to meet this benchmark.

5.3.3.4 ISP Node unavailability:

ISP Nodes unavailability should not exceed 30 minutes in a month. All the ISPs are able to achieve this benchmark.

5.3.3.5 Grade of Service:

All the service providers (except VSNL & Trak Online Net) have met the benchmark of .01. Iqara Broadband has informed that information cannot be provided by BSNL.

5.3.3.6 Mean Time to Restore (MTTR):

All the ISPs have been rectifying the fault within stipulated period of three days.

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Table 1.1

## Subscriber Base of Fixed Services

S. No.	BSO	Area of Operation	March'03	June'03	Sept'03	Dec'03	March'04
1	BSNL	All India	35907691	35726495	35821681	<b>35706683</b>	36112093
2	MTNL	Delhi & Mumbai	4633665	4555040	4457523	<b>4459955</b>	4367264
3	Bharti Group	MP, Delhi, Haryana, TN, Karnataka	370973	422178	497094	<b>569196</b>	636725
4	Tata Teleservices	Maharashtra	233397	248227	704218	<b>867958</b>	
5	Tata Teleservices	AP, TN, Karnataka, Gujrat, Delhi	216527	289606			1003585
6	HFCL Infotel	Punjab	79502	83613	93844	<b>107990</b>	125331
7	Shyan Telelink	Rajasthan	49138	55383	67676	<b>87334</b>	92392
8	Reliance Infocom	18 Circles	160	160	103514	<b>290303</b>	503353
	<b>Grand Total</b>		<b>41491053</b>	<b>41379702</b>	<b>41745550</b>	<b>42089419</b>	<b>42840743</b>

Table 1.2

## Equipped Switching Capacity

S. No	Service Providers	Area of Operation	Equipped Capacity as on 31.12.03	Capacity Added during the quarter
1	BSNL	All India	46336818	732893
2	MTNL	Delhi & Mumbai	6552539	506166
3	Bharti	MP, Delhi, Haryana, TN, Karnataka	683654	45104
4	HFCL	Punjab	207660	15000
5	TATA	Maharashtra	569000	5000
6	RTPL	18 Circles	7451832	-134512
7	STL	Rajasthan	140000	0
8	TTL	AP, TN, Karnataka, Gujarat, Delhi	1304620	95268
		<b>TOTAL</b>	<b>63362609</b>	<b>945209</b>

Table 1.3

## Details of Public Call Offices (PCO)

S.No	Service Providers	Area of Operation	PCOs as on 31.03.04	PCOs Added during the quarter
1	BSNL	All India	1519686	102679
2	MTNL	Delhi & Mumbai	239654	11305
3	Bharti	MP, Delhi, Haryana, TN, Karnataka	73869	8148
4	HFCL	Punjab	22263	2227
5	TATA	Maharastra	28805	2460
6	RTPL	18 Circles	2537	0
7	STL	Rajasthan	14347	2147
8	TTL	AP, TN, Karnataka, Gujrat, Delhi	23017	2470
	<b>TOTAL</b>		<b>1924178</b>	<b>131436</b>

\* Source - Operators

Table 1.4

## Details of Village Public Telephones (VPT)

S.No	Service Providers	Area of Operation	VPTs as on 31.3.04	Achievement during the Quarter (Jan-Mar 04)
1	BSNL	All India	509491	3382
2	MTNL	Delhi & Mumbai	191	0
3	Bharti	MP, Delhi, Haryana, TN, Karnataka	607	0
4	HFCL	Punjab	789	-91
5	TATA	Maharashtra	2653	-3
6	RTPL	18 Circles	4114	0
7	STL	Rajasthan	3010	0
8	TTL	AP, TN, Karnataka, Gujrat, Delhi	1408	0
		<b>TOTAL</b>	<b>522263</b>	<b>3288</b>

\* Source - Operators

\* For Bharti Figure for Sept'03 is taken as uncharged for Mar'04

Table 2.1

## Subscribers Base of Mobile Service (Cellular + WLL(M))

	Mar'03	Jun'03	Sept'03	Dec'03	Mar'04	%age share for Mar'04
Reliance	5.41	23.95	47.96	62.46	72.65	21.64
Bharti	30.17	37.51	46.17	55.00	65.04	19.30
BSNL	22.98	32.34	40.14	49.30	54.56	16.19
Hutchison	21.63	26.19	32.23	37.71	51.48	15.27
Idea	12.80	14.63	18.98	22.41	27.33	8.11
BPL	11.31	11.67	13.05	15.41	18.83	5.59
Spice	6.40	7.09	7.54	10.53	12.08	3.55
Escotel	5.87	5.99	6.90	8.26	9.89	2.93
Tata	1.47	2.01	3.80	5.64	6.25	1.85
MTNL	3.47	3.46	3.88	4.15	4.6	1.37
Hexacom	1.32	1.55	1.81	2.03	2.57	0.76
Shyam	0.33	0.33	0.31	0.30	0.3	0.09
HFCL	0.32	0.27	0.25	0.26	0.3	0.09
Others (Aircell, RPG etc.)	6.43	7.79	6.98	10.91	11.03	3.26
<b>Total Sub. Base</b>	<b>129.91</b>	<b>174.78</b>	<b>230.00</b>	<b>284.37</b>	<b>336.91</b>	<b>100</b>

## Subscribers Base for Cellular &amp; WLL (M)

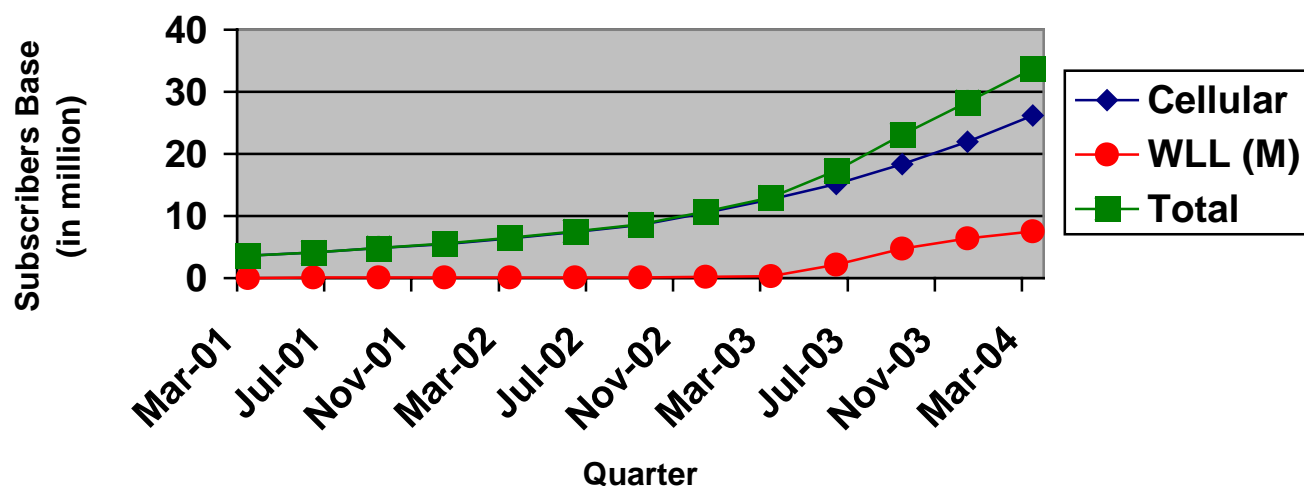


Table 2.2

**Market Share of Mobile (Cellular + WLL (M)) Service Providers**

**i) Subscriber Base of Cellular Mobile Service**

S.No.	Cellular Group	Market Share	No. of Subscribers
1.	Bharti Grp	24.9 %	65.04 lakh
2.	BSNL	20.1 %	52.54 lakh
3.	Hutchison Grp	19.7 %	51.48 lakh
4.	IDEA Grp	10.4 %	27.33lakh
5.	BPL Grp	7.2 %	18.83 lakh
6.	Others (Hexacom and Aircel Group)	4.9%	12.83 lakh
7.	Spice Grp	4.6 %	12.08 lakh
8.	Escotel Grp	3.8%	9.89 lakh
9.	Reliance Grp	3.0 %	7.90 lakh
10.	MTNL	1.4 %	3.60 lakh
Total			261.54 lakh

**ii) Subscriber Base of WLL (M) Service**

S.No.	CDMA Operators	No. of Subscribers	Market Share
1	Reliance Infocomm	64,74,349	86.76%
2	Tata Teleservices	6,25,267	8.38%
3	BSNL	2,02,198 (Feb'04)	2.71%
4	MTNL	1,02,739	1.38%
5	HFCL	29,908	.40%
6	Shyam Telelink	27,632	.37%
	Total	74,62,095	



### Growth Pattern of Cellular Subscriber Base

#### 2.2.1 Cellular Subscriber base

(Subscribers in Lakhs)

Category	Mar'03	June'03	Sept'03	Dec'03	Mar'04	% share for Mar'04
Metros	44.4	51.92	61.07	69.94	79.41	30.35
A' Circle	43.65	52.95	65.76	80.48	97.08	37.11
B' Circle	33.75	41.08	48.6	60.53	74.02	28.30
C' Circle	5.08	6.34	7.57	8.97	11.12	4.24
All India	126.88	151.49	183.00	219.92	261.54	

Source: MN division

#### 2.2.2 Quarterly Growth Rate of Cellular Subscriber

Category	Mar'03	June'03	Sept.03	Dec.'03	March'04
<b>Metros</b>	9.53%	15.15%	19.47%	14.52%	13.55%
<b>A' Circle</b>	23.70%	21.32%	24.19%	22.38%	20.64%
<b>B' Circle</b>	30.38%	21.73%	18.30%	24.55%	22.29%
<b>C' Circle</b>	40.41%	24.61%	19.54%	18.40%	23.99%
<b>All India</b>	20.46%	19.40%	20.81%	20.17%	18.93%

Table 3.1

## Subscribers Base of Internet Services

S.No.	Name of ISP	Category	Area of operation	Total subscribers as on 31 <sup>st</sup> December, 2003	Total subscribers as on 31 <sup>st</sup> March, 2004
1	Bharat Sanchar Nigam Ltd.	A	All India	1004246	1128172
2	MTNL	B	Delhi & Mumbai	691717	769434
3	Sify Ltd.	A	All India	686642	658192
4	VSNL	A	All India	629411	600509
5	Dishnet DSL Ltd.	A	All India	175721	264631
6	Data Infosys Ltd.	A	All India	174606	198993
7	TATA Internet Services Ltd.	A	All India	178875	179224
8	Reliance Communications Infrastructure Limited	A	All India	1708	174038
9	Bharti Broadband Network Ltd.	A	All India	73872	73872
10	HCL Infinet Ltd.	A	All India	61744	55242
11	Data Access India Ltd.	A	All India	44685	40769
12	Trak Online Net India Pvt.Ltd	A	All India	41954	31210
13	BG Broadband India Pvt. Ltd.	A	Gujarat, Mumbai	23185	30367
14	Sab Infotech Ltd.	B	Punjab, Karnal, Dharmashalla	28242	29839
15	lccenet.net Limited	B	Gujarat	28258	28937
16	Shyam Internet Services Pvt. Ltd.	A	All India	23748	24335
17	Tata Teleservices (Maharashtra) Ltd. (Hughes Telecom)	A	All India	18253	20483
18	Hathway Cable & Datacom Pvt. Ltd.	A	All India	16784	19447
19	Fascel Ltd.	B	Gujarat	18001	18001
20	Rolta India Limited	B	Mumbai	14805	12783
21	WWW Communications Ltd.	B	Delhi	11522	11988
22	Emmsons Infotech Ltd.	B	Punjab	10200	10200
23	HFCL Infotel Ltd.	B	Punjab Telecom Circle	6994	8534
24	Asianet Satellite Communications Ltd.	B	Kerala	7242	7703
25	S.S. Netcom Pvt. Ltd.	B	North East Circle	6585	6759
26	BSES Telecom Ltd.	B	Mumbai	6752	6752
27	City Online Services Ltd.	B	Andhra Pradesh & Karnataka	6525	6525
28	Wilnet Communications Pvt. Ltd.	B	Gujarat	6052	6073
29	Primus Telecommunication India Ltd.	A	All India	6299	5940
30	Southern Online Services Ltd.	B	Andhra Pradesh	6061	5063
31	RPG Infotech Ltd. (Sprint RPG India)	A	All India	4713	5047
32	VasNet Communications Pvt Ltd.	C	Dakshina Kannada	4768	5008
33	In2Cable.Com(India) Ltd	A	All India	4404	4433
34	Exoress Comm. Pvt. Ltd.	B	Kolkata, WB	4381	4381
35	Seven Star Dot Com	B	Khar(w), Jogeshwari (w)	3542	4297
36	Space Online (P) Ltd.	B	Gujarat	3711	3803
37	GTL Ltd.	A	All India	487	3245
38	Jindal Online.com Ltd.	B	Gujrat	3177	3177

39	Narmada Cyberzone Pvt. Ltd.	B	Gujarat	2948	2910
40	E comm opportunities Pvt. Ltd.	B	Gujarat	2802	2905
41	Forum Infotech (P) Ltd.	C	Srinagar	2882	2882
42	Blazenet Ltd.	B	Gujarat	2774	2774
43	Data-Link Impex Pvt. Ltd.	B	Gujarat	2709	2709
44	Sixth Sense Informatics pvt. Ltd.	B	Mumbai	2550	2550
45	West Bengal Electronics Industry Development Corporation Ltd.	B	Calcutta	2475	2475
46	iPath India Pvt. Ltd.	C	Ernakulam SSA	2453	2275
47	Navin.com (I) Pvt. Ltd.	A	All India	11743	2257
48	Nettlinx Ltd.	B	Andhra Pradesh	5003	2124
49	Primenet Global Ltd.	A	All India	2084	2056
50	Digital 2 Virtual SP Pvt. Ltd.	C	Vadodara, Kheda	1724	2021
51	Spectra Net Ltd.	A	All India	2034	1941
52	Ankhnet Informations Pvt. Ltd.	B	Mumbai	1691	1741
53	Kelnet Communication	C	Trivandrum	1715	1715
54	Tawie.com Pvt. Ltd.	C	Jammu SSA	1611	1676
55	Pioneer Online Pvt. Ltd.	B	Andhra Pradesh	1608	1609
56	Pacific Internet India Pvt. Ltd.	A	Mumbai, Bangalore, Pune	1732	1601
57	Trikon electronics Pvt. Ltd.	B	Mumbai	1068	1433
58	Descon Ltd.	B&C	Kolkata, WB	1682	1416
59	Rida Communications Pvt. Ltd.	C	Aligarh	1291	1291
60	Hughes Escorts Communications Ltd.	A	All India	58	1286
61	Swiftmail Communications Ltd.	A	All India	1260	1256
62	Mylai Karpagambal Information Systems (P) Ltd.	B	Chennai	1137	1251
63	HCL Comnet Systems & Services Ltd.	A	All India	486	1227
64	Online Media Solutions Ltd.	A	All India	1201	1201
65	Weikfield Mnemonix Infonetworks Pvt. Ltd.	B	Pune	1150	1150
66	Siti Cable Network Ltd. (Zee Interactive Multimedia Ltd.)	A	All India	1080	1113
67	Ortel Communication Ltd	C	Bhubaneshwar, Cuttack	850	987
68	Comsat Max Ltd.	A	All India	912	982
69	Micky Online Pvt. Ltd.	C	Moradabad, Nainital	1105	960
70	Patriot Automation	A	All India	956	956
71	Spectrum Softech Solutions Pvt. Ltd.	C	Ernakulam SSA	891	929
72	Bhasinsoft India Ltd.	B	Karnataka	999	922
73	Jain Infonet Ltd.	B	Rajasthan	865	916
74	Hathway Bhawani Cable & Datacom	B	Mumbai	728	856
75	ERNET India	A	All India	668	780
76	IOL Broadband Ltd (India Online Network Ltd.)	B	Mumbai	721	721
77	Bohra Pratisthan Pvt. Ltd.	C	Udaipur SSA	866	675
78	Sujan Engineering Pvt. Ltd.	C	Vadodra	667	667
79	Speed Online.net Pvt. Ltd.	C	Rajkot	144	655
80	Opto network Pvt. Ltd.	C	SSA Ghaziabad	624	624
81	Broadlane Networks Pvt. Ltd.	C	Maharashtra	474	617
82	Kappa Infotech Pvt Ltd.	C	Kota SSA	594	594
83	Growth Compusoft Exports Ltd.	B	Gujarat	603	581

84	Atria Convergence Tech. Pvt. Ltd.		Karnataka	0	581
85	Chanchalaa Electronics Pvt. Ltd.	C	Ranchi SSA	531	531
86	Millenium Telecom Ltd.	A	All India	512	512
87	Viraj Telecom Ltd.	B	Karnataka	502	502
88	Antriksh Technologies Pvt. Ltd.	C	Jammu SSA	586	489
89	Value Healthcare Ltd.	B	Mumbai	476	476
90	Spacecom Broadlane Networks Ltd.	B	Delhi	391	476
91	Bhaskar Multinet Pvt. Ltd.	C	Jaipur	465	465
92	Quest Consultancy Pvt. Ltd.	C	Valsad SSA	415	454
93	Jumpp India Pvt. Ltd.	A	All India	536	441
94	Lee & Nee Softwares (Exports) Ltd.	C	Bhubaneshwar	448	423
95	Starnet Online Services Ltd.	C	Visakhapatnam	294	418
96	Delaila Industry Pvt. Ltd.	C	Srinagar	416	416
97	Silicon Mountain (I) Ltd.	B	Mah	409	409
98	CJ Online Private Ltd.	C	Ghaziabad	453	402
99	MyNet Services India Pvt. Ltd.	C	Salem (SSA) Tamil Nadu	450	395
100	Websurf Pvt. Ltd.	C	Kalyan SSA	468	393
101	Gateway Systems (I) pvt. Ltd.	A	All India	353	353
102	Mac Info Pvt. Ltd.	B	Hyderabad	340	340
103	Myguru Online	B	Andhra P.	329	329
104	Rajasthan Telematic Ltd.	B	Rajasthan	325	325
105	Digital Nagpur Online Pvt. Ltd.	C	Nagpur	189	315
106	Guj Info Petro Ltd.	A	All India	311	311
107	Excel Media Pvt. Ltd.	B	Andhra P	308	308
108	Virtual Continuity Electronics Pvt. Ltd.	C	Ranchi SSA	300	300
109	ISP Solutions India Pvt. Ltd.	C	Coimbatore SSA	267	296
110	Bareilly Communications Pvt. Ltd.	C	Bareilly	290	290
111	Sanchar Telenetwork Pvt. Ltd.	C	Bhavnagar	283	283
112	n-Logue Communications (P) Ltd.	A	All India	210	245
113	Diksha Cyber City (P) Ltd.	C	Sri Ganganagar SSA	199	235
114	Planet Internet Satellite (VVN) Pvt. Ltd.	C	Nadiad Telecom Dist	226	221
115	Emtici Engineering Ltd.	C	Khera SSA	207	207
116	CJM Consultancy Services Pvt. Ltd.	B	Delhi	160	182
117	Swastik Netvision Telecom Pvt. Ltd	B	Gujrat	152	175
118	NetMagic Solutions(P) Ltd.	B	Mumbai	167	167
119	Dialnet Communications Ltd.	B	Delhi	224	159
120	Surevin Internet Services Ltd.	C	Ghaziabad U.P.	168	157
121	Trans Virtual Pvt. Ltd.	C	Guwahati SSA	150	150
122	Assured Web Technologies	C	Bhopal	143	143
123	Srishti Open systems (P) Ltd.	C	Trivandrum	243	142
124	Aksh Broadband Ltd.	C	Jaipur	140	140
125	Chandra net Pvt. Ltd.	B	Gujrat	140	140
126	Trident Netcom sol. Pvt. Ltd.	A	All India	136	136
127	North east Online Services (P) Ltd.	C	Guwahati SSA	114	126
128	A-Team Information Technology Ltd.	C	Erode	125	125
129	DelDSL Internet Pvt. Ltd.	B&C	Delhi, Gurgaon, Banglore, Ghaziabad	108	124
130	Manipal Ecommerce Ltd. (Manipal Control	B	Karnataka	111	111

	Data Electronic Commerce Ltd.)				
131	Q Tel Comtech Ltd.	C	Gurgaon	109	109
132	Bhupati Hotels Pvt. Ltd.	C	Visakhapatnam	138	107
133	Estel Communications Pvt. Ltd.	A	All India	72	105
134	Czars Oleoresin Pvt. Ltd.	C	Gulbarga District	190	90
135	Broad Range App. Integrated Networks Solutions Pvt. Ltd.	C	Bokaro SSA	88	88
136	Amber online Sevices Ltd.	B	Andhra Pradesh, circle	68	86
137	Centre for Development of Advanced Computing, C-DAC (Electronics Research and Development Centre of India (ER&DC))	C	Ghaziabad SSA	76	76
138	Master Chip	C	Nizamabad	72	72
139	Tata Power Company Ltd.	A	All India	59	66
140	Shreedhar Infosys Ltd.	C	Varanasi SSA	123	61
141	L&T Netcom Ltd.	A	All India	63	60
142	Micromap Satcom Pvt. Ltd.	C	Lukhnow	60	60
143	Direct Internet Ltd.		0 Delhi, Ghaziabad &Gurgaon	56	56
144	Reach Networks India Pvt. Ltd.	A	All India	50	50
145	Access Online Pvt. Ltd.	B	Mumbai	46	49
146	Karuturi Networks Ltd.	B	Karnataka	49	46
147	Arun Girija Communications pvt. Ltd.	C	PATNA	45	42
148	i2i Enterprise Ltd.	A	All India	28	36
149	Indian Quotation Systems Pvt. Ltd. (IQSPL)	B	Mumbai	32	32
150	Gujrat Narmada Valley Fertilizer Co. Ltd. (GNFC)	A	All over India	21	21
151	Patel Infosoft Pvt. Ltd.	C	Valsad SSA	0	21
152	Sree Sree Infotainment Pvt. Ltd.	C	Vizag	20	20
153	Paya Computer Services (P) Ltd.	C	Dhanbad	19	19
154	Essel Shyam Comm. Ltd.	A	All India	18	18
155	MX Solutions	B	Kerala	17	17
156	Kushagra Telecom Pvt. Ltd	C	Ghaziabad,SSA	16	15
157	Icenetworks (P) Ltd.	B	Bangalore	15	15
158	PBC Ventures Ltd.	B	Delhi	16	14
159	Nomus Internet Systems Pvt. Ltd.	B	Andhra Pradesh	26	14
160	Astra Infonets Pvt. Ltd.	B	Hyderabad	12	12
161	Railtel Corporation of India Ltd.	A	All India	12	12
162	Uttar Pradesh Network Pvt. Ltd.	B	Uttar Pradesh	10	10
163	West Bengal Network Pvt. Ltd.	B	West Bengal	10	10
164	World tel TamilNadu Pvt. Ltd.	B	Tamilnadu circle excluding Chennai & Chennai	10	10
165	Beacon Broadband Networks Pvt. Ltd.	C	Durg SSA	10	10
166	Software Technology park of India (STPI)	A	All India	10	8
167	Applogic Broadband Sys. Ltd.	B	Hyderabad	8	8
168	Samkhya Networks (P) Ltd.	C	Gurgaon	8	8
169	Cyquator Technologies Ltd.	A	All India	7	7
170	Bihar Network Pvt. Ltd.	B	Bihar	5	5
171	Giga Solutions Pvt. Ltd.	B	Maharashtra	5	5
172	Haryana Cybernet Pvt. Ltd.	B	Haryana	5	5
173	Infomagic Services Pvt. Ltd.	B	Mumbai	5	5

174	Kerala communication Network Pvt. Ltd.	B	Kerala	5	5
175	MP Network Pvt. Ltd.	B	Madhya Pradesh	5	5
176	Orissa Network Pvt. Ltd.	B	Orissa	5	5
177	Punjab Cybernet pvt. Ltd.	B	Punjab	5	5
178	Tandem Infotech Pvt. Ltd.	C	Trivandrum	5	5
179	Godrej Infotech Ltd.	B	Mumbai	4	4
180	Surana Telecom Ltd.	B	Andhra Pradesh	3	3
181	Compucom (I) Pvt. Ltd.	C	Jaipur	3	3
182	Worldwide com Pvt. Ltd.	C	Saharanpur	3	3
183	CMC Ltd.	A	All India	2	2
184	Bharat Connect Ltd	B	Delhi	2	2
185	Bharti AquanetLtd	A	All India	2	2
186	iServ India Solutions Pvt. Ltd.	A	Delhi, Kerela and UP	1	1
187	Reliance Engineering Associates Pvt. Ltd. (Broadband Solutions)	A	All India	3	1
188	E Connect Solutions	C	Udaipur SSA	1	1
189	Apna Telelink Pvt. Ltd.	C	Jalandhar	46	0
				<b>4138585</b>	<b>4549618</b>

**Table 4.1**

**Subscriber Base of Public Mobile Radio Trunking Service (PMRTS)**

Total number of operators: 15  
 Number of operators who have submitted reports: 13

1	Aryadoot Transport Pvt Limited	Vishakhapatnam	817	871	930
	<b>Total</b>			<b>871</b>	<b>930</b>
2	Jet-Aiu Skyline Transport Pvt Ltd.	Indore	385	382	377
	<b>Total</b>			<b>382</b>	<b>377</b>
3	Container Movement (Bombay) Transport Pvt Ltd.	Delhi	248	241	239
	<b>Total</b>			<b>241</b>	<b>239</b>
4	Arya Offshore Services Pvt Ltd.	Mumbai	997	958	944
5		Chennai	699	684	828
	<b>Total</b>			<b>1642</b>	<b>1772</b>
6	Hapag Llyod (German Express Shipping Agency (India) Pvt Ltd.	Navi Mumbai (Belapur)	301	459	474
7		Delhi	249	350	343
	<b>Total</b>			<b>809</b>	<b>817</b>
8	United Liner Agencies of India (Pvt) Ltd	Delhi	1145	896	815
9		Calcutta	935	1000	1039
	<b>Total</b>			<b>1896</b>	<b>1854</b>
10	Procall Limited	Delhi	6110	6226	6237
11		Jaipur	204	193	220
12		Gurgaon	504	521	605
13		Faridabad	400	287	299
	<b>Total</b>			<b>7227</b>	<b>7361</b>
14	The Arvind Mills Ltd.	Delhi	1221	1006	984
15		Faridabad	1	1	1

16		Mumbai	834	1101	1118
17		Vashi	44	46	46
18		Ahmedabad	358	295	311
19		Baroda	638	627	635
20		Surat	951	870	871
21		Chennai	1244	1157	1069
22		Bangalore	713	1053	1146
	<b>Total</b>			<b>6156</b>	<b>6181</b>
23	Smartalk Pvt Limited	Pune	327	342	442
24		Vashi	607	495	433
25		Mumbai	499	287	290
	<b>Total</b>			<b>1124</b>	<b>1165</b>
26	QuickCall	Bangalore	1135	1331	1776
27		Hyderabad	748	999	935
28		Chennai	1142	796	879
	<b>Total</b>			<b>3126</b>	<b>3590</b>
29	Bhilwara Telenet Services Pvt Limited	Mumbai	1540	734	787
30		Delhi	0	0	0
	<b>Total</b>			<b>734</b>	<b>787</b>
31	Mobilkom India Limited	New Delhi	73	65	66
32		Shimla	35	33	17
	<b>Total</b>			<b>98</b>	<b>83</b>
33	India Satcom Ltd.	Bangalore		360	318
	<b>Total</b>			<b>360</b>	<b>318</b>
34	ITI LTD.	Madurai		Report Not Submitted	Report Not Submitted
35		Hyderabad			
36		Chennai			
37		Ahmedabad			
38		Vadodra			
	<b>Total</b>			<b>NA</b>	<b>NA</b>
39	Hofintel Ltd.	Hyderabad		Report Not Submitted	Report Not Submitted
40		Chennai			
	<b>Total</b>			<b>NA</b>	<b>NA</b>



Table 4.2

## Subscriber Base of VSAT Service Providers

S.No.	Service Provider	30.6.2003	30.9.2003	31.12.2003	31.03.2004	Percentage of Market Share (%) as on 31.03.2004
1	Hughes	5456	5928	7263	8395	30.42
2	HCL Comnet	3987	4578	5833	8376	30.35
3	Comsat Max	3668	3700	3833	4210	15.25
4	Bharti BT	3252	3462	3824	3829	13.87
5	Essel Shyam	1579	1631	2005	2040	7.39
6	Tata Services	58	90	176	367	1.33
7	Telstra Vishesh*	158	156	159	159	0.58
8	RPG Satellite Communications Pvt. Ltd.	96	87	91	79	0.29
9	HFCL*	67	67	67	67	0.24
10	ITI	53	53	53	53	0.19
11	GNFC*	24	26	26	26	0.09
	<b>Total</b>	<b>18398</b>	<b>19778</b>	<b>23330</b>	<b>27601</b>	<b>100.00</b>

\* The Service Providers have not provided the data so the last quarter data have been retained.

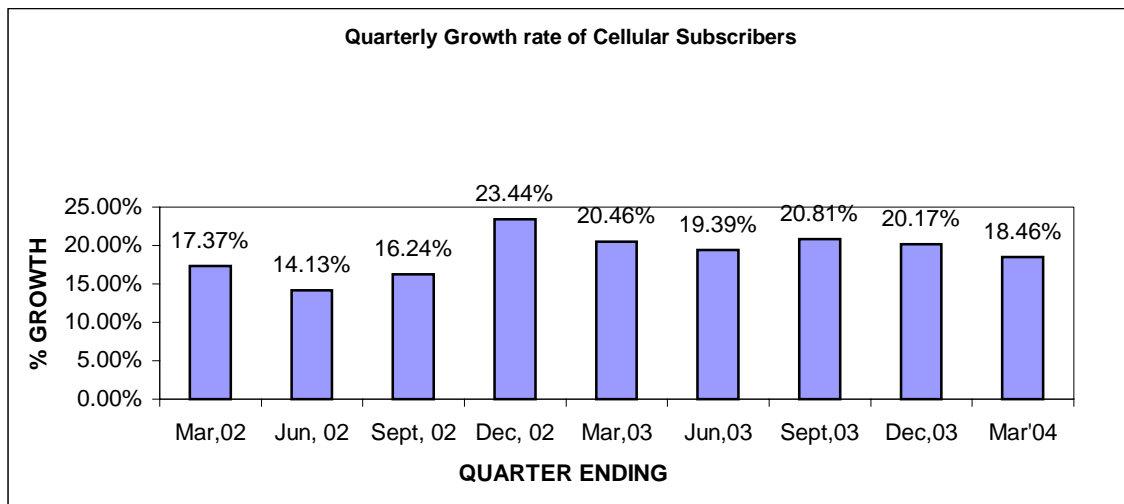
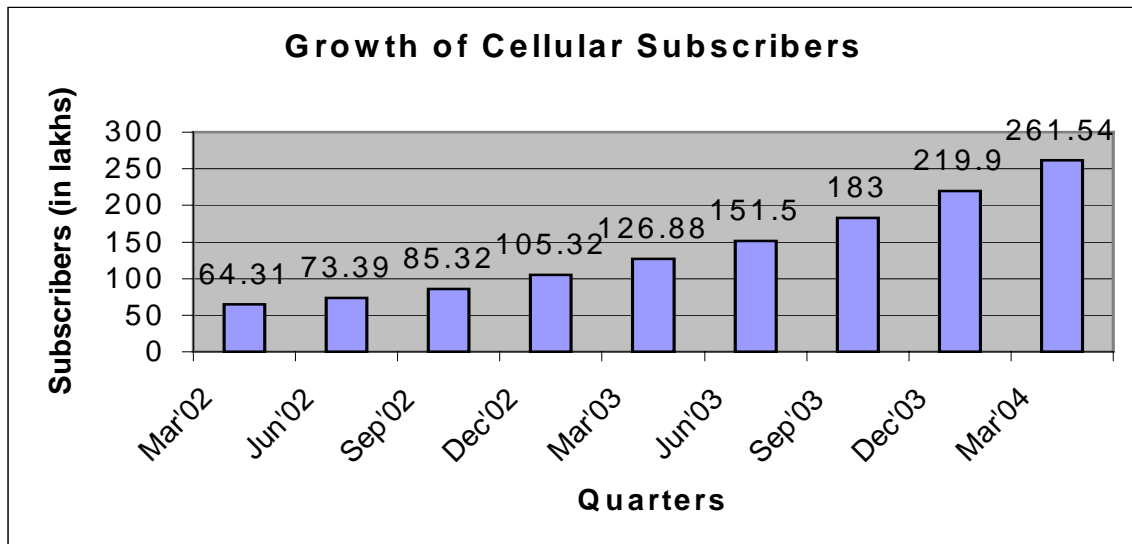
## Circle-wise details of Operator's Migration to Unified Access Service Regime

Service Provider	Service Area	DoT. Letter. Reference No.	License No.	Date
Bharti	M P		17-12/95-BS-II	28.02.97
HFCL	Punjab	10-10-2003-BS-II / Vol-II	17-15/95-BSII/Punjab	07.11.97
TTL	Maharashtra including Mumbai	10-10-2003-BS-II	17-11/95-BS-II	30.09.97
STL	Rajasthan	10-10-2003-BS-II / Vol-II	17-16/95-BS-II/Rajasthan	04.03.98
TTL	A P	10-10-2003-BS-II	17-1/95-BS-II/Andra Pradesh	04.11.97
TTL	TN	10-10-2003-BS-II	18-61/2001-BS-II	31.08.2001
TTL	Karnataka	10-10-2003-BS-II	18-59/2001-BS-II	31.08.2001
TTL	Delhi	10-10-2003-BS-II	18-57/2001-BS-II/Delhi	31.08.2001
TTL	Gujarat	10-10-2003-BS-II	18-58/2001- BS-II	31.08.2001
RTPL	Bihar	10-10-2003-BS-II / Vol-II	18-113/2001-BS-II	20.07.2001
RTPL	Delhi	10-10-2003-BS-II / Vol-II	18-32/2001-BS-II	20.07.2001
RTPL	Gujarat	10-10-2003-BS-II / Vol-II	17-6/95-BS-II	18.03.97
RTPL	Haryana	10-10-2003-BS-II / Vol-II	18-30/2001-BS-II	20.07.2001
RTPL	HP	10-10-2003-BS-II / Vol-II	18-116/2001-BS-II	20.07.2001
RTPL	Karnataka	10-10-2003-BS-II / Vol-II	18-35/2001-BS-II	20.07.2001
RTPL	Kerala	10-10-2003-BS-II / Vol-II	18-38/2001-BS-II	20.07.2001
RTPL	MP	10-10-2003-BS-II / Vol-II	18-32/2001-BS-II	20.07.2001
RTPL	Maharashtra	10-10-2003-BS-II / Vol-II	18-36/2001-BS-II	20.07.2001
RTPL	Orissa	10-10-2003-BS-II / Vol-II	18-112/2001-BS-II	20.07.2001
RTPL	Punjab	10-10-2003-BS-II / Vol-II	18-31/2001-BS-II	20.07.2001
RTPL	Rajasthan	10-10-2003-BS-II / Vol-II	18-115/2001-BS-II	20.07.2001
RTPL	Tamilnadu	10-10-2003-BS-II / Vol-II	18-29/2001-BS-II	20.07.2001
RTPL	UP(East)	10-10-2003-BS-II / Vol-II	18-34/2001-BS-II	20.07.2001
RTPL	UP(West)	10-10-2003-BS-II / Vol-II	18-39/2001-BS-II	20.07.2001

## Growth of Transmission Network Infrastructure (OFC &amp; M/W in R kms)

S.No	Service Providers	Area of Operation	Media	Transmission Network Infrastructure (In R kms)	Achievement during the Quarter (Oct-Dec 2003)
1	BSNL	All India	OFC	448874	5963
			MW	152663	717
2	MTNL	Delhi & Mumbai	OFC	7922	104
			MW	1321	0
3	Bharti	MP, Delhi, Haryana, TN, Karnataka	OFC	5633.3	100.7
			MW	0	0
4	HFCL	Punjab	OFC	1629	0
			MW	0	0
5	TATA	Maharashtra	OFC	1600	0
			MW	600	0
6	RTPL	18 Circles	OFC	50551.2	1455.2
			MW	258.98	258.98
7	STL	Rajasthan	OFC	2842	290
			MW	23	0
8	TTL	AP, TN, Karnataka, Gujrat, Delhi	OFC	4951	295
			MW	1240	44
<b>TOTAL</b>			OFC	<b>524003</b>	<b>8208</b>
			MW	<b>156106</b>	<b>1020</b>

**Growth Rate of Cellular Mobile subscribers  
(SUBSCRIBERS IN LAKHS)**



### Growth pattern of Cellular Service

#### 2.2.1 Number of subscribers on Prepaid platform (quarter ending)

Circle	Dec-03	Mar-04	% change
Circle A	5,498,728	6,631,645	20.60%
Circle B	4,683,655	5,737,577	22.50%
Circle C	738,046	813,107	10.17%
<b>Metro</b>	5,592,366	6,202,288	10.91%
<b>All India</b>	16,512,795	19,384,617	17.39%

#### 2.2.2 Number of subscribers on Postpaid platform (Quarter ending)

Circle	Dec-03	Mar-04	% change
Circle A	2,273,041	2,720,634	19.69%
Circle B	1,308,286	1,633,171	24.83%
Circle C	158,307	249,373	57.52%
<b>Metro</b>	1,403,457	1,739,723	23.96%
<b>All India</b>	5,143,091	6,342,901	23.33%

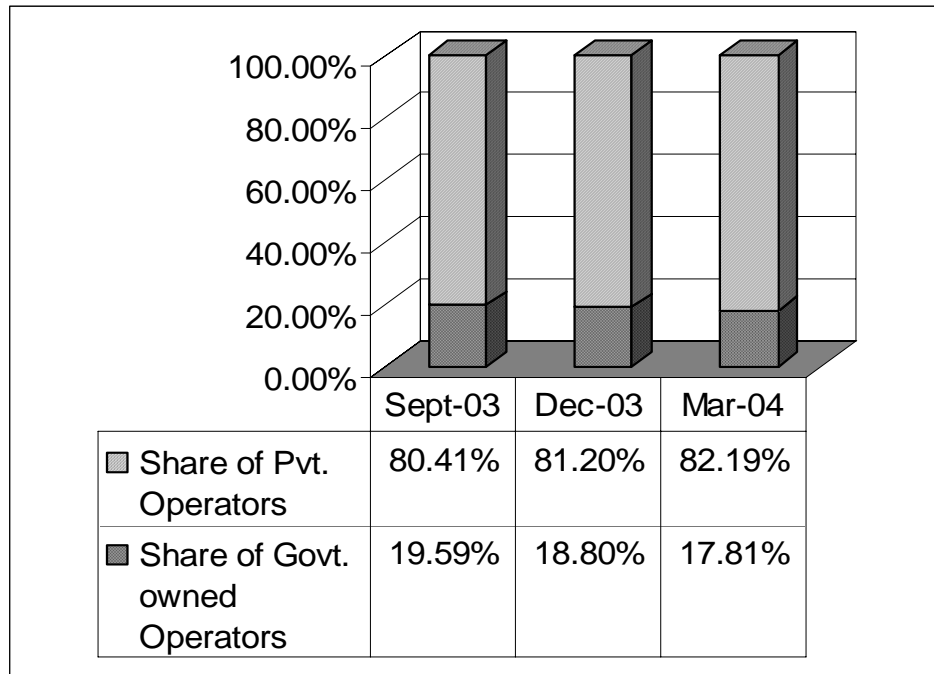
#### 2.2.3 Proportion of prepaid subscribers in total subscribers (quarter ending)

	Sep-03	Dec-03	Mar-04
Circle A	74.04%	71.45%	70.91%
Circle B	78.67%	78.19%	77.84%
Circle C	85.17%	82.37%	76.53%
Metro	79.85%	80.08%	78.09%
All India	77.69%	76.52%	75.35%

#### 2.2.4 Monthly rate of growth in prepaid and postpaid subscribers

	Jan-04	Feb-04	Mar-04
Postpaid	8.51%	6.51%	6.71%
Prepaid	5.70%	5.28%	5.50%

**Distribution of Mobile Market between Private & Govt. Owned operators**



### Trends in usage pattern (MOU), ARPU & Average Airtime charges

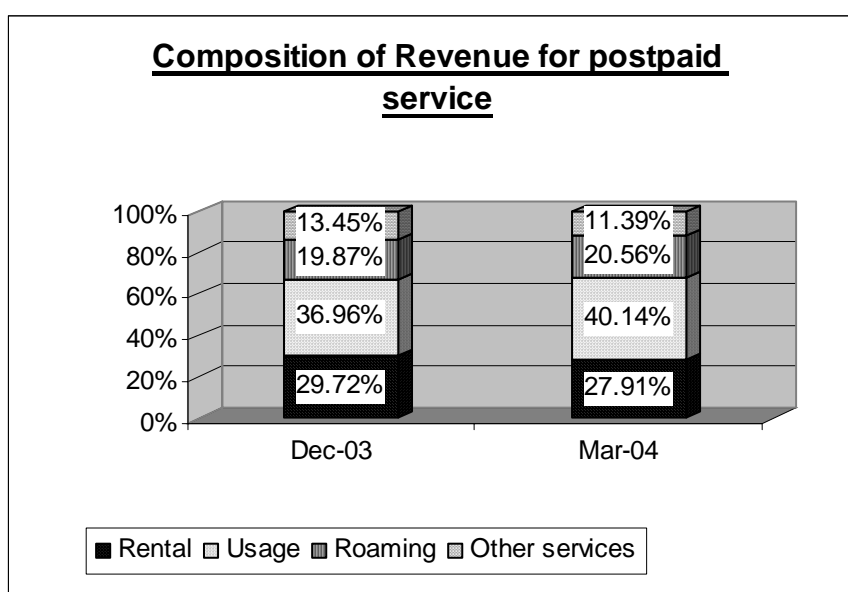
a) ARPU (per month during the quarter) - Cellular service (Rs.)

Circle	Postpaid	Prepaid	Blended ARPU
Circle A	780	279	425
Circle B	783	285	395
Circle C	792	346	467
<b>Metro</b>	1323	258	482
<b>All India</b>	930	277	436
<b>All private CMSPs</b>	1032	266	431
<b>BSNL/MTNL</b>	693	326	453

b) Composition of Revenue for Cellular Service Providers (%): Postpaid cellular Service

Item	Dec-03	Mar-04
Rental Revenue	29.72%	27.91%
Revenue from Call charges (usage)	36.96%	40.14%
Revenue from Roaming	19.87%	20.56%
Other Revenues *	13.45%	11.39%
<b>Total</b>	<b>100%</b>	<b>100%</b>

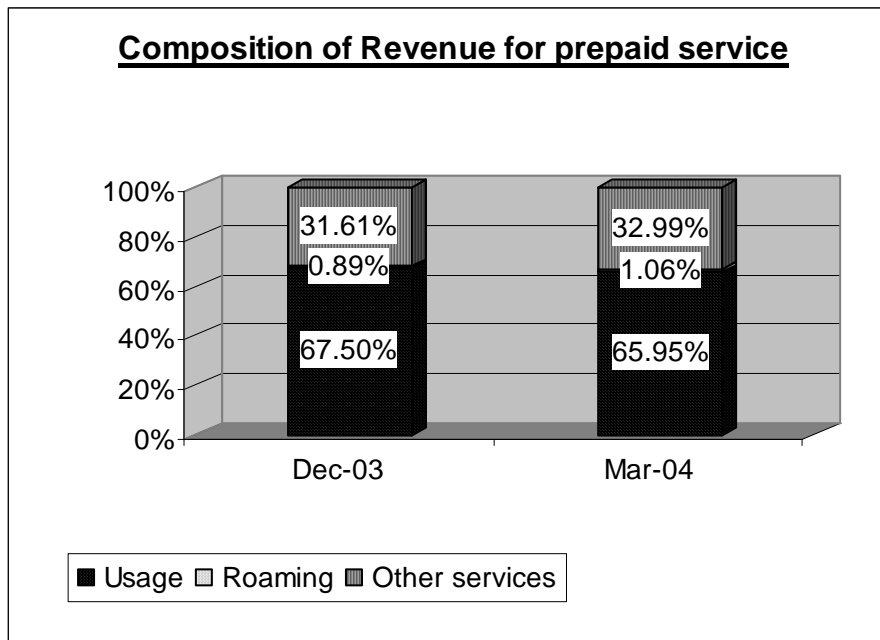
\* Includes revenue from sources such as value added services, installation etc.



c) Composition of Revenue for Cellular Service Providers (%) : Prepaid cellular Service

Item	Dec-03	Mar-04
Revenue from Call charges (Usage)	67.50%	65.95%
Revenue from Roaming	0.89%	1.06%
Other Revenues*	31.61%	32.99%
<b>Total</b>	<b>100%</b>	<b>100%</b>

\* Includes revenue from sources such as value added services, installation etc.





## Usage Pattern in Cellular Services

## a) MOU (per subscriber per month) in Cellular Service

Circle	Postpaid	Prepaid	Blended MOU
Circle A	571	233	326
Circle B	529	293	340
Circle C	418	234	275
<b>Metro</b>	678	202	300
<b>All India</b>	586	247	322

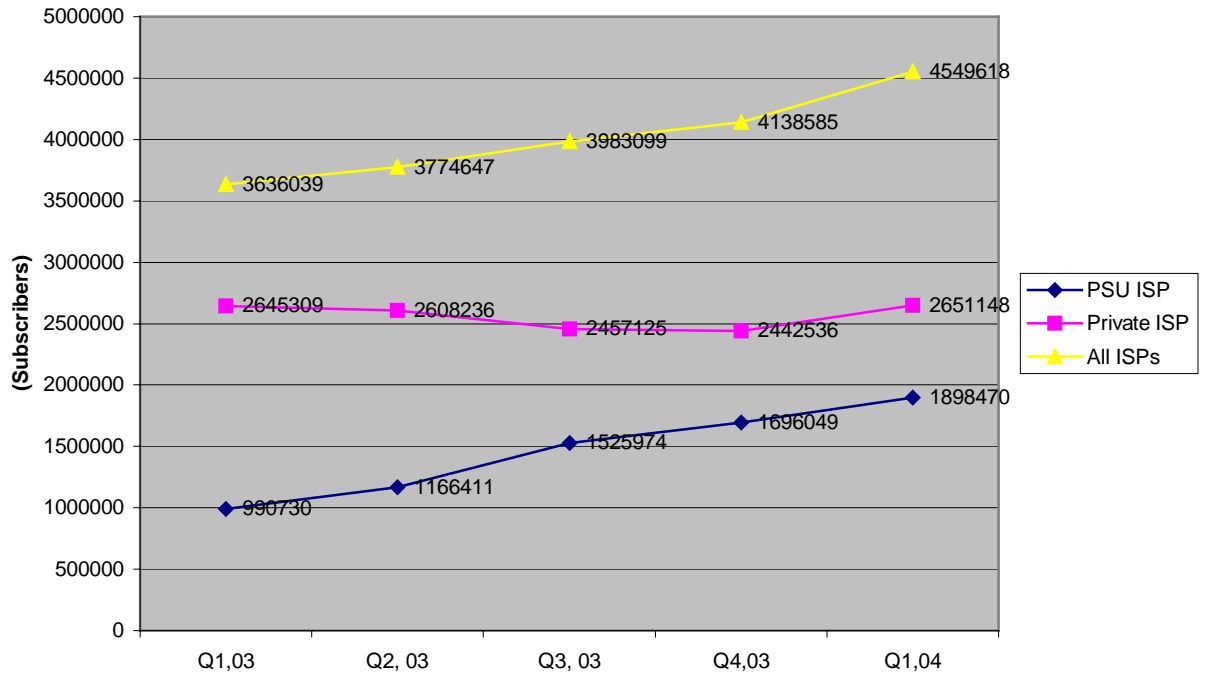
## b) Proportion of Incoming minutes in total traffic

Circle	Postpaid	Prepaid	Blended
Circle A	58%	73%	65%
Circle B	53%	69%	63%
Circle C	58%	66%	63%
<b>Metro</b>	56%	81%	69%
<b>All India</b>	56%	74%	66%

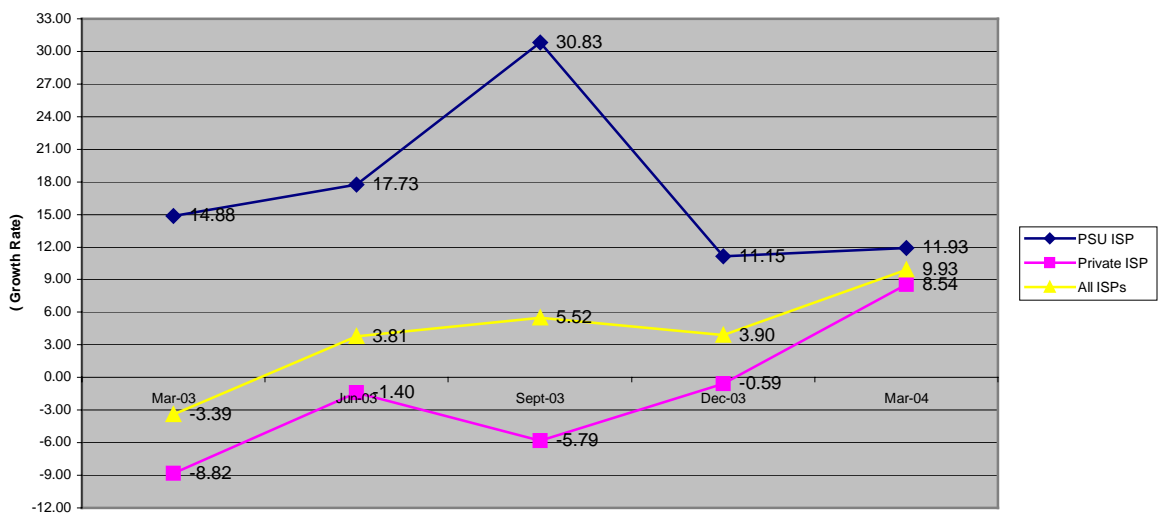
Note: excludes BSNL' s data for Gujarat, MH, MP, UP(W), WB & Chennai service area

### Growth Pattern of Internet Subscribers

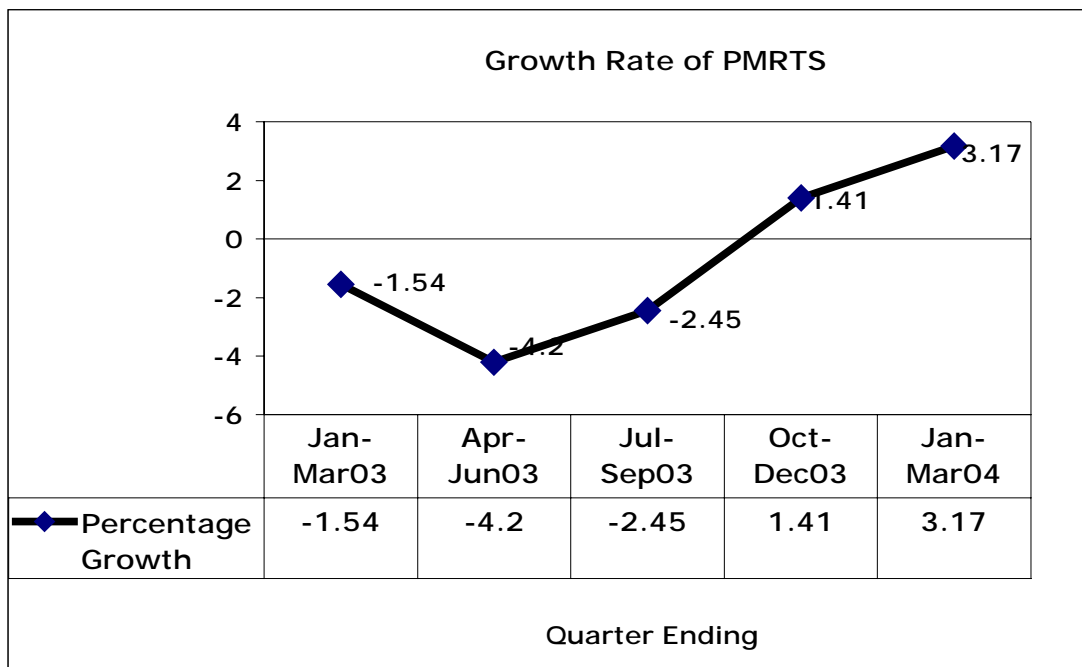
Growth Trends - Nos.



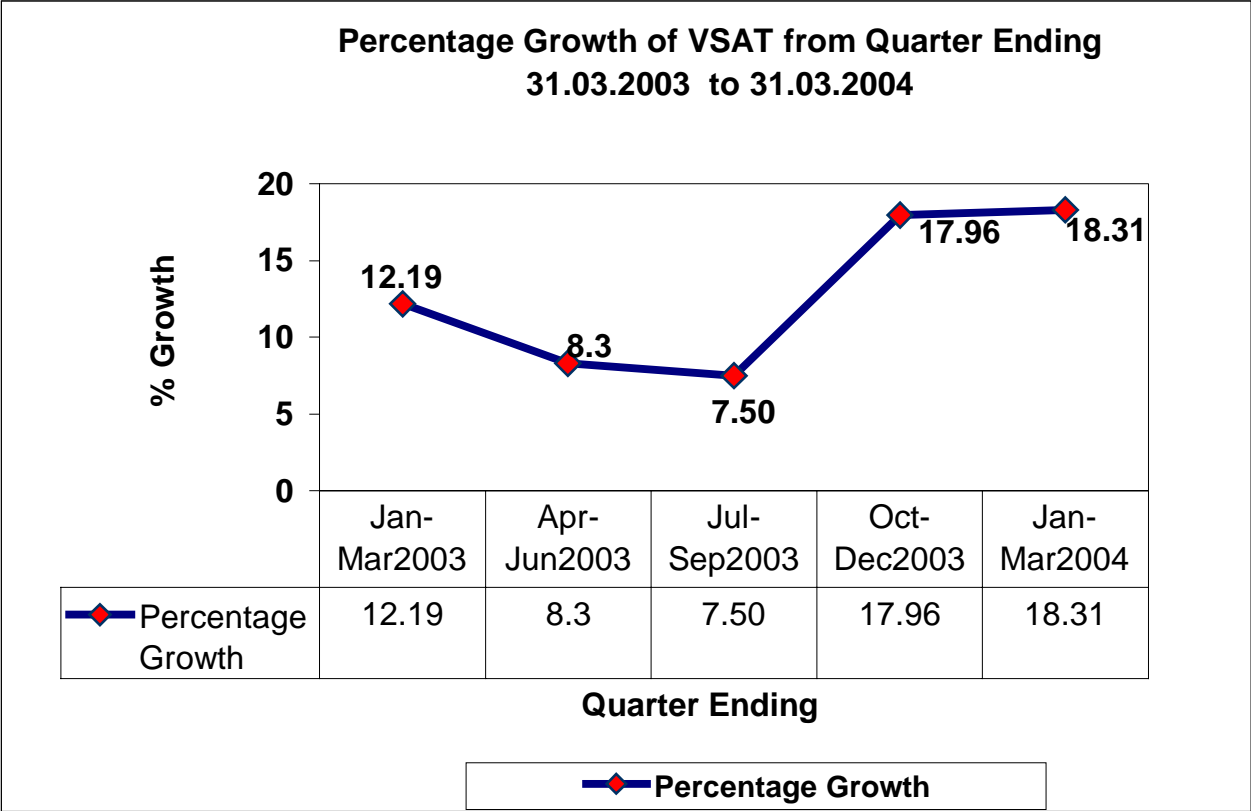
Growth Trends - Rate



Growth Rate of PMRTS subscribers



Growth Rate of VSAT Subscribers



## Quality of Service Parameters for Basic Services

Page-1

QoS Parameters			New connections after registration of demand*	Fault incidences per 100/sub/mth	Fault repair by next working day			Mean Time to Repair (MTTR)	Grade of service (calls per thousand)	Call completion rate in local network	Metering & billing credibility- % of bills disputed	Operator Assisted Trunk calls (% answered within time norm)		Shifts	Closures	Additional facility	Percentage of repeat faults		
Sr. No.	Circles	Service Providers			100% in < 7days	<3	>90% (Month-1)					>90% (Month-2)	>90% (Month-3)				<8 hrs	a) Junction between local exchange (2/1000)	>65%
1	AP	BSNL	NR	7.17	94.00	83.81	89.28	12.3	NA	46.37%	0.07	84.55	86.81	63.99	NR	NR	7.02	10.11	8.16
		RELIANCE	NA	0.00	100.00	100.00	100.00	2.2	0.005	70.88%	0.14	NA	N/A	100.00	100	100	0	0	0
		TATA	89	1.13	97.82	98.02	97.25	5.15	0.002	76.91%	0.49	83.82	79.52	61.49	0.00	73.68	7.01	5.61	5.49
2	BIHAR	BSNL	NR	7.31	91.51	88.61	90.06	12	NA	58.20%	0.03	80.65	56.00	19.27	NR	NR	5.22	2.57	2.34
		RELIANCE	NA	0.01	100.00	100.00	100.00	2.5	0.005	62.69%	0.20	N/A	N/A	100.00	100	100	0	0	0
3	DELHI	MTNL	NR	22.13	74.09	76.24	79.92	13.68	0.002	44.00%	0.14	81.39	77.54	65.37	96.80	82.46	13.28	11.87	11.99
		RELIANCE	NA	0.00	100.00	100.00	100.00	2.2	0.005	72.58%	0.20	N/A	N/A	100.00	100	100	0	0	0
		BHARTI	64	2.74	97.92	98.53	99.16	3.89	0.5	51.07%	0.07	44	45.16	35.45	31.72	86.63	21.28	19.32	21.42
		TATA	94	0.06	100.00	100.00	97.84	3.4	0.003	57.00%	0.68	99.063	99.623	44.32	0	75	0	0	0
4	GJ	BSNL	NR	6.65	94.49	96.10	96.07	10	NA	60.40%	0.09	8.84	86.26	74.75	NR	NR	5.77	5.48	5.87
		RELIANCE	NA	0.00	100.00	100.00	100.00	2	0.005	72.58%	0.17	N/A	N/A	100.00	100	100	0	0	0
		TATA	93	0.39	98.51	99.58	100.00	2.4	0.0004	52.65%	1.27	100	100	0.00	100	98	0.00	0.00	0.00
5	MP & CHATT	BSNL(MP)	NR	7.98	87.48	86.92	87.76	12.33	NA	67.17%	0.13	88.11	85.62	62.22	NR	NR	2.89	2.77	3.24
		BSNL(Chhat)	NR	12.63	88.79	90.08	91.62	2.33	NA	62.33%	0.07	100.00	99.87	61.57	NR	NR	0.88	1.46	0.80
		RELIANCE	NA	0.00	100.00	100.00	100.00	0.3	0.005	73.12%	0.19	N/A	N/A	100.00	NR	NR	0	0	0
		BHARTI	98	1.90	96.92	97.48	96.93	4.6	0	65.30%	0.06	80	0	58.05	100.00	94.89	2.50	1.55	1.91
6	MH	BSNL	NR	6.77	88.73	88.74	86.85	16.33	NA	59.13%	0.06	83.76	89.87	40.79	NR	NR	5.79	5.96	6.32
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.8	0.005	69.28%	0.17	N/A	N/A	100.00	100	100	0	0	0

		<b>TATA</b>	NA	1.20	99.66	99.42	99.70	1.55	0.006	56.94%	0.57	NA	99	37.08	NA	43.44	6.72	6.12	6.24
7	<b>PB</b>	<b>BSNL</b>	NR	9.25	91.05	90.17	93.50	19	NA	62.40%	0.09	85.10	88.10	67.65	NR	NR	1.89	99.01	1.61
		<b>RELIANCE</b>	NA	0.00	100.00	100.00	100.00	2.4	0.005	67.29%	0.20	N/A	N/A	100.00	100	100	0	0	0
		<b>HFCL</b>	96	7.32	97.06	95.90	92.94	8.48	0	75.67%	0.07	NA	NA	58.97	93.30	97.75	10.04	10.20	7.84
8	<b>RJ</b>	<b>BSNL</b>	NR	10.36	87.05	87.55	89.83	11	NA	59.53%	0.06	90.31	93.95	33.32	NR	NR	2.63	99.23	2.01
		<b>RELIANCE</b>	NA	0.01	100.00	100.00	100.00	2.4	0.005	69.41%	0.12	N/A	N/A	100.00	100	100	0	0	0
		<b>SHYAM</b>	96	3.09	98.48	99.23	99.79	5.2	0.001	66.00%	0.86	0	82.79	95.68	65	96	0.42	0.51	0.35
9	<b>TN</b>	<b>BSNL</b>	NR	5.20	96.40	96.55	96.82	7.67	NA	70.40%	0.04	1.06	98.92	63.00	NR	NR	0.79	99.66	0.93
		<b>RELIANCE</b>	NA	0.00	100	100	100	2.4	0.002	69.41%	0.12	N/A	N/A	100.00	100	100	0.00	0.00	0.00
		<b>BHARTI</b>	99	2.44	100	100	97	1.3	0.005	62.04%	0.19	N/A	N/A	100.00	100	100	0.00	0.00	0.00
		<b>TATA</b>	70	0.27	99.77	98.28	99.09	2.52	0.0034	55.31%	0.35	64	72.72	9.33	89	58	99.77	98.28	99.09
10	<b>HR</b>	<b>BSNL</b>	NR	9.17	92.04	92.54	92.90	14.33	NA	69.77%	0.07	74.61	20.69	48.39	NR	NR	3.35	3.36	99.64
		<b>RELIANCE</b>	NA	0.01	100.00	100.00	100.00	1.7	0.005	64.63%	0.19	74.61	20.69	100.00	100	100	100	100	100
		<b>BHARTI</b>	86	3.04	94.99	99.59	100.00	5.24	0.5	49.38%	0.05	26	28	24.30	44.88	88.68	16.98	19.63	20.75
11	<b>KTK</b>	<b>BSNL</b>	NR	5.48	97.14	96.89	96.51	4	NA	58.13%	0.04	94.57	96.95	60.02	NR	NR	4.61	4.05	5.12
		<b>RELIANCE</b>	NA	0.00	100.00	100.00	100.00	0.7314	0.005	73.14%	0.19	N/A	N/A	100.00	100	100	0	0	0
		<b>BHARTI</b>	60	0.76	99.89	99.52	99.47	2.4	0	60.44%	0.19	0	0	0.76	0.00	86	11.15	12.35	12.46
		<b>TATA</b>	19	0.24	98.90	98.17	93.65	4.58	0.0002	54.97%	0.30	0	100	55.05	0	58	3	4	7

Operators not meeting the prescribed benchmarks,

NA= Not Applicable, NR= Not Reported

Contd. On next page

QoS Parameters			New connections after Fault incidences per 100/sub/mth	Fault repair by next working day	Mean Time to Repair (MTTR)	Grade of service (calls per thousand)	Call completion rate in local network	Metering & billing credibility- % of bills disputed	Operator Assisted Trunk calls (% answered within time norm)	Shifts	Closures	Additional facility	Percentage of repeat faults						
S. No	Service Area	Service Provider	Applicable Long term Benchmark as per TRAI Regulation on QoS dated 5th July 2000																
			100% in < 7days	<3	>90% (Month-1)	>90% (Month-2)	>90% (Month-3)	<8 hrs	# Junction between local exchange	>85%	<0.1%	Urgent calls: <1 hr	Ordinary calls: <2 hr	< 3 days	< 24 hours	< 24hours	<1% (Month-1)	<1% (Month-2)	<1% (Month-3)
12	A&N	BSNL	NR	7.86	94.12	93.62	96.83	4.3	NR	47.33%	0.13	84.50	73.35	95.85	NR	NR	15.28	100.00	1.84
		RELIANCE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	100	NA	NA	NA
13	AS	BSNL	NR	8.21	94.86	93.65	95.70	24	NR	53.47%	0.09	93.39	77.33	40.76	NR	NR	1.20	1.00	0.79
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.7	0.005	71.87%	0.09	N/A	N/A	100.00	100	100	0.00	0.00	0.00
14	Chennai	BSNL	NR	7.86	94.11	93.60	97.94	18.7	NR	71.17%	0.09	82.13	83.71	39.44	NR	NR	26.94	30.74	25.47
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.2	0.005	0.80%	0.00	N/A	N/A	100.00	100	100	0	0	0
15	HP	BSNL	NR	18.06	96.33	94.14	95.72	6.33	NR	67.87%	0.06	86.31	3.44	61.80	NR	NR	2.80	1.00	0.91
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.2	0.005	0.80%	0.00	N/A	N/A	100.00	100	100	0	0	0
16	JHKD	BSNL	NR	7.22	92.08	96.50	90.94	17	NR	34.43%	0.05	84.27	98.85	3.27	NR	NR	1.27	1.00	1.27
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.6	0.005	72.78%	0.08	87.13	80.00	40.00	NR	NR	4.70	3.00	4.70
17	J&K	BSNL	NR	14.24	93.80	95.85	95.85	12.3	NR	42.93%	0.07	77.23	78.18	24.40	NR	NR	1.00	1.00	1.87
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.9	0.005	71.93%	0.09	N/A	N/A	100.00	100	100	0.00	0.00	0.00
18	KR	BSNL	NR	8.73	92.10	93.67	93.47	13.3	NR	67.60%	0.04	94.01	87.28	45.80	NR	NR	1.74	84.80	8.26
		RELIANCE	NA	0.00	100.00	100.00	100.00	2.8	0.005	68.02%	0.06	N/A	N/A	100.00	100	100	0	0	0
19	Kolkata	BSNL	NR	7.26	90.72	113.52	91.10	28	NR	53.36%	0.08	87.13	80.00	40.00	NR	NR	4.70	3.00	4.70
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.6	0.005	72.78%	0.08	N/A	N/A	100.00	100	100	0.00	0.00	0.00
20	Mumbai	BSNL	NR	7.86	94.08	96.34	96.80	27.3	0.008	84.78%	0.00	73.43	74.20	14.00	100	88.17	13.30	11.87	11.80
		RELIANCE	NA	0.00	100.00	100.00	100.00	1.9	0.005	71.93%	0.09	N/A	N/A	100.00	100	100	0.00	0.00	0.00
21	NE-I	BSNL	NR	4.94	75.48	88.80	73.54	40	NR	44.40%	0.10	87.93	88.50	3.80	NR	NR	1.30	8.48	1.38
		RELIANCE	NA	0.01	100.00	100.00	100.00	1.3	0.005	66.36%	0.14	N/A	N/A	100.00	100	100	0	0	0
22	NE-II	BSNL	NR	5.54	94.74	98.14	95.36	20.3	NR	64.70%	0.11	80.43	71.71	13.86	NR	NR	1.48	1.00	1.07
		RELIANCE	NA	0.01	100.00	100.00	100.00	2.2	0.005	66.36%	0.08	N/A	N/A	100.00	100	100	0	0	0
23	OR	BSNL	NR	8.88	93.02	97.83	93.28	5.33	NR	73.90%	0.23	75.00	91.30	27.32	NR	NR	0.70	100.00	1.32
		RELIANCE	NA	0.01	100.00	100.00	100.00	0.9	0.005	68.25%	0.19	N/A	N/A	100.00	100	100	0	0	0
24	UP-E	BSNL	NR	12.94	95.10	98.21	98.80	9	NR	66.53%	0.02	80.00	88.24	82.80	NR	NR	0.40	1.00	1.00
		RELIANCE	NA	0.01	100.00	100.00	100.00	1.3	0.005	66.36%	0.14	N/A	N/A	100.00	100	100	0	0	0
25	UP-W	BSNL	NR	8.02	95.41	96.41	96.84	5	NR	53.47%	0.04	23.30	67.18	47.80	NR	NR	1.00	4.34	98.80
		RELIANCE	NA	0.01	100.00	100.00	100.00	2.2	0.005	66.36%	0.08	N/A	N/A	100.00	100	100	0	0	0
26	Utri	BSNL	NR	10.90	97.92	90.79	91.76	6	NR	66.53%	0.02	80.00	88.24	47.27	NR	NR	1.30	1.00	1.43
		RELIANCE	NA	0.04	100.00	100.00	100.00	2.2	0.005	67.90%	0.08	N/A	N/A	100.00	100	100	0	0	0
27	WB	BSNL	NR	7.53	87.80	89.64	88.80	21	NR	58.80%	0.05	86.40	92.10	98.80	NR	NR	1.58	1.00	1.58
		RELIANCE	NA	0.04	100.00	100.00	100.00	2.2	0.005	67.90%	0.08	N/A	N/A	100.00	100	100	0	0	0

Operator not meeting prescribed benchmark

NA = Not Available,

NR = Not Reported

## Quality of Service Parameters for Cellular Services

Details QoS Parameters for Cellular Services as reported by CMSPs for the quarter ending 31st March 2004											
Sr. No.	Operators with Circles	Fault Incidence & Repair			Network Performance				Billing Complaints		
		(i)	(ii)	(iii)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)
		No. of faults (per 100 subscribers)	Faults cleared within 24 hrs	Accumulated down time of community isolation	Call Success Rate (within licencees own network)	Service Access Delay	Call Drop Rate	% of connection with good voice quality	Complaints per 100 bills issued	% of complaints resolved within 4 weeks	payment due to customers from the date of resolution of complaints as in (ii)
		Benchmarks									
		<1	100%	<24 hrs	>99%	9 to 20 sec	<3%	>95%	<.1%	100%	<4 weeks
<b>(i)</b>	<b>'A' Circle</b>										
1	BPL, MH	1.72%	59.00%	53.42 Hrs	99.92%	5 Sec	1.45%	98.25%	0.10%	100.00%	30 Days
2	IDEA Cellular, MH	0.00%	100.00%	105.43 Hrs	96.59%	13.58 Sec	1.22%	98.54%	0.07%	100.00%	30 Days
3	BSNL, MH	1.63%	31.00%	50 Hrs	86.10%	2.37 Sec	1.43%	NA	2.00%	95.00%	30 Days
4	Bharti Cellular, MH & Goa	0.60%	100.00%	22.34 Hrs	99.17%	9.43 Sec	1.09%	95.85%	0.43%	100.00%	28 days
5	Fascel - Hutch GJ	0.00%	100.00%	74.45 Hrs	99.99%	14.54 Sec	1.40%	96.70%	0.00%	100.00%	25 Days
6	IDEA Cellular, GJ	0.00%	100.00%	3.45 Hrs	99.00%	13.96 Sec	1.14%	97.90%	0.06%	100.00%	30 Days
7	BSNL, GJ	1.50%	99.06%	NIL	99.01%	2.08 Sec	1.18%	NA	0.02%	100.00%	14 Days
8	Bharti Cellular, GJ	0.01%	100.00%	18.62 Hrs	99.23%	16.53 Sec	1.09%	96.95%	0.04%	100.00%	14 Days
9	IDEA Cellular, AP	0.00%	100.00%	15.18 Hrs	99.97%	9.52 Sec	1.80%	96.45%	0.08%	100.00%	2 Days
10	Bharti Mobile, AP	0.05%	100.00%	11 Hrs	99.01%	15.77 Sec	1.21%	98.45%	0.07%	100.00%	30 Days



11	BSNL, AP	0.10%	94.91%	0	98.00%	6 Sec	1.76%	98.00%	0.08%	83.00%	30 Days
12	Hutchison Essar, AP	1.00%	95.00%	24 Hrs	90.68%	5 Sec	1.17%	94.00%	0.04%	100.00%	30 Days
13	Bharti Mobile, KTK	0.04%	100.00%	10.53 Hrs	99.06%	10 Sec	1.80%	95.60%	0.02%	100.00%	30 Days
14	Spice Comm., KTK	0.20%	100.00%	4.01 Hrs	99.60%	9 Sec	1.32%	98.30%	0.10%	100.00%	14 Days
15	BSNL, KTK	0.60%	100.00%	7 Hrs	86.84%	9 Sec	1.24%	96.00%	1.00%	100.00%	14 Days
16	Hutchison Essar, KTK	0.05%	99.00%	82 Hrs	97.50%	3.48 Sec	1.10%	98.22%	0.15%	100.00%	2 Days
17	BPL Cellular, TN	0.16%	100.00%	20.24 Hrs	99.10%	9.23 Sec	1.27%	99.24%	0.10%	100.00%	30 Days
18	Aircel, TN	0.01%	100.00%	12.02 Hrs	99.08%	14.52 Sec	1.72%	95.70%	0.10%	100.00%	45 Days
19	BSNL, TN	1.60%	97.05%	Nil	87.52%	10.47 Sec	1.17%	97.80%	1.24%	100.00%	14 Days
20	Bharti Cellular, TN	0.10%	100.00%	21 Hrs	99.06%	15.62 Sec	1.32%	97.69%	0.08%	100.00%	4 Days
<b>(II) B' Circle</b>											
21	Escotel Mobile, KR	0.27%	100.00%	1.14 Hrs	99.94%	14 Sec	1.30%	97.50%	0.12%	100.00%	30 Days
22	BPL Cellular, KR	0.00%	100.00%	6.13 Hrs	99.07%	8.89 Sec	1.16%	100.00%	0.00%	100.00%	30 Days
23	BSNL, KR	1.80%	94.00%	99.36 Hrs	87.21%	17.28 Sec	1.54%	87.00%	1.70%	85.00%	30 Days
24	Bharti Cellular, KR	0.12%	100.00%	18 Hrs	99.01%	18.26 Sec	1.78%	99.30%	0.10%	100.00%	4 Days
25	Spice Comm., PB	0.25%	98.60%	0	98.50%	7 Sec	1.25%	97.50%	0.02%	100.00%	1 Day
26	Bharti Mobile, PB	0.03%	100.00%	4.1 Hrs	99.20%	10 Sec	1.50%	99.60%	0.07%	100.00%	1 Day
27	BSNL, PB	0.00%	95.08%	545 Hrs	98.00%	4.8 Sec	0.67%	91.00%	2.69%	95.42%	98%
28	Escotel Mobile, HR	0.21%	100.00%	14.15 Hrs	99.72%	15 Sec	1.31%	99.11%	0.05%	100.00%	30 Days
29	Aircel Digilink, HR	0.02%	99.80%	29.26 Hrs	99.72%	8.7 Sec	1.83%	99.80%	0.26%	78.00%	8 Days
30	BSNL, HR	0.60%	99.63%	17 Hrs	95.20%	5.6 Sec	2.86%	97.25%	0.19%	100.00%	21 Days
31	Bharti Cellular, HR	0.08%	100.00%	4.2 Hrs	99.30%	9 Sec	1.60%	99.70%	0.07%	100.00%	1 Day
32	Escotel Mobile, UP(W)	0.10%	100.00%	11.23 Hrs	99.50%	12.7 Sec	1.27%	95.95%	0.29%	100.00%	30 Days
33	BSNL, UP(W)	1.00%	85.00%	NA	100.00%	17.38 Sec	2.69%	98.50%	0.24%	100.00%	NA
34	Bharti Cellular, UP(W)	0.75%	100.00%	18.4 Hrs	99.42%	12 Sec	1.84%	96.40%	0.09%	100.00%	30 Days
35	Aircel Digilink, UP(E)	Data	not	Reported		Data	not		Reported		
36	BSNL, UP(E)	0.60%	99.17%	3 Hrs	96.00%	4 Sec	2.73%	94.00%	0.08%	100.00%	NA
37	Aircel Digilink, RJ	0.01%	52.00%	89.3 Hrs	100.00%	8.7 Sec	1.76%	97.53%	..07%	100.00%	16 Days

38	Hexacom, RJ	1.09%	67.52%	87.4 Hrs	98.10%	6 Sec	1.45%	92.02%	0.03%	100.00%	1 Day
39	BSNL, RJ	0.60%	92.35%	8.86 Hrs	98.51%	5.38%	1.65%	93.37%	0.65%	92.92%	30 Days
40	IDEA Cellular, MP	0.20%	98.50%	43.2 Hrs	99.07%	12.32 Sec	1.13%	97.95%	0.85%	100.00%	30 Days
41	Reliance, MP	0.01%	100.00%	17.36 Hrs	100.00%	8.73 Sec	2.75%	96.96%	0.04%	100.00%	1 Day
42	BSNL, MP	1.20%	96.48%	NA	94.41%	2.59 Sec	1.29%	99.00%	0.06%	100.00%	30 Days
43	Bharti Cellular, MP	0.00%	100.00%	.5 Hrs	99.91%	13.44 Sec	0.83%	99.03%	0.09%	100.00%	14 days
44	Reliance, WB	0.01%	100.00%	21.42 Hrs	99.00%	9.26 Sec	2.66%	97.92%	0.00%	NA	NA
45	BSNL, WB	0.90%	100.00%	Nil	99.15%	5.66 Sec	2.73%	98.65%	0.00%	100.00%	Nil
<b>(III) C' Circle</b>											
46	Bharti Telenet, HP	0.06%	100.00%	4.4 Hrs	99.04%	10 Sec	1.65%	99.80%	0.06%	100.00%	1 Day
47	Reliance, HP	0.12%	100.00%	21.15 Hrs	100.00%	7.55 Sec	1.96%	99.09%	0.00%	100.00%	10 Days
48	BSNL, HP	1.10%	77.58%	Nil	85.85%	6.1Sec	3.24%	91.40%	0.19%	100.00%	Nil
49	Reliance, BR	0.02%	100.00%	53.74 Hrs	99.00%	8.64 Sec	2.02%	95.67%	0.00%	100.00%	7 Days
50	BSNL, BR	0.06%	85.30%	9 Hrs	97.27%	7.27 Sec	1.40%	92.95%	0.09%	99.90%	30 Days
51	Reliance, ORISA	0.14%	100.00%	11.10 Hrs	99.72%	8.44 Sec	2.27%	97.20%	0.00%	100.00%	NA
52	BSNL, OR	0.36%	89.96%	100.87 Hrs	82.25%	7 Sec	2.47%	96.00%	0.70%	100.00%	Nil
53	Reliance, AS	0.00%	100.00%	Nil	99.00%	9.86 Sec	2.08%	96.85%	0.08%	100.00%	NA
54	BSNL J&K	0.70%	0.90%	16 Hrs	48.00%	16 Sec	2.30%	96.00%	0.12%	100.00%	NA
55	Reliance, NE	0.00%	100.00%	0	99.00%	9.50 Sec	1.33%	99.02%	0.02%	100.00%	2 Days
<b>(IV) METRO</b>											
56	Bharti Cellular, Delhi	0.34%	100.00%	0	99.32%	12 Sec	1.87%	96.13%	0.10%	100.00%	30 Days
57	Hutchison Essar, Delhi	1.00%	100.00%	0	99.98%	10 Sec	1.38%	95.25%	0.03%	100.00%	30 Days
58	MTNL, Delhi	0.18%	98.00%	0	98.20%	13 Sec	1.01%	99.00%	0.10%	100.00%	30 Days
59	IDEA Cellular, Delhi	0.15%	98.77%	0	99.98%	7 Sec	1.30%	97.06%	0.20%	100.00%	30 Days
60	BPL Mobile, Mumbai	0.32%	100.00%	4.03 Hrs	94.82%	16.5 Sec	1.64%	98.80%	0.10%	100.00%	40 Days
61	Hutchison Max, Mumbai	0.32%	100.00%	24 Hrs	100.00%	10 Sec	1.56%	96.85%	0.00%	100.00%	30 Days
62	MTNL, Mumbai	0.01%	100.00%	0	98.50%	11.66 Sec	1.62%	97.33%	0.01%	99.33%	42 Days
63	Bharti Cellular, Mumbai	0.40%	100.00%	0	99.10%	9 Sec	1.48%	97.00%	0.08%	100.00%	25 Days

64	Aircel Cellular Ltd, Chennai	0.22%	100.00%	3.4 Hrs	100.00%	14.5 Sec	1.44%	95.10%	0.40%	100.00%	30 Days
65	Bharti Mbinet, Chennai	0.06%	99.00%	0	99.50%	11.2 Sec	0.89%	96.28%	0.10%	100.00%	4 Days
66	Hutchison Essar, Chennai	1.00%	100.00%	0	100.00%	9.2 Sec	0.73%	98.60%	3.70%	92.00%	30 Days
67	Bharti Mobinet, Kolkata	0.46%	100.00%	0	99.66%	15 Sec	1.59%	97.13%	0.10%	100.00%	30 Days
68	Hutchison, Kolkata	0.02%	100.00%	8.98 Hrs	99.75%	17 Sec	0.97%	96.36%	0.10%	100.00%	30 Days
69	BSNL, Kolkata	4.60%	86.63%	0	98.44%	7 Sec	1.56%	98.36%	0.50%	100.00%	Nil
70	BSNL, Chennai	0.52%	100.00%	Nil	98.61%	12.20 Sec	0.54%	100.00%	0.77%	98.00%	14 Days

<b>Note:-</b>											
<b>NA = Data not available</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>7</b>
<b>Not meeting the bechmarks</b>	<b>9</b>	<b>26</b>	<b>13</b>	<b>24</b>	<b>0</b>	<b>1</b>	<b>8</b>	<b>23</b>	<b>10</b>	<b>3</b>	
<b>Meeting the bechmarks</b>	<b>60</b>	<b>43</b>	<b>55</b>	<b>45</b>	<b>69</b>	<b>68</b>	<b>61</b>	<b>46</b>	<b>59</b>	<b>60</b>	
<b>Total</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>	<b>70</b>

**Benchmark not meeting the Service Providers**

## Quality of Service Parameters for ISPs

Report on Quality of Service Parameters of Internet Service Providers									
S. No.	Name of the Service Provider	Service Activation time	Time to Access	Access Portability in 1 <sup>st</sup> attempt	Access Portability in 2 <sup>nd</sup> attempt	Access Portability in 3 <sup>rd</sup> attempt	ISP Node unavailability	Grade of Service (QoS)	Mean time to Restore of faults resulting as per subscriber complaints
	<b>TRAI Benchmarks</b>	<b>6 hrs</b>	<b>30 sec</b>	<b>80</b>	<b>90</b>	<b>99</b>	<b>30 min</b>	<b>0.01</b>	<b>3 days</b>
1	BSNL	0-24 hrs *	32 sec	90%	98%	100%	Nil	0.01	1.5 hrs
2	MTNL	Instant	30 Sec	99.67%	99.99%	Nil	NA	0.01	5 mints
3	Sify Ltd.	3 min	30 Sec	90%	95%	99%	20 min	0.005	4 hrs
4	VSNL	Within limit	Within limit	Within limit	Within limit	Within limit	Nil	Better than 1%	12 mint
5	TATA Internet Services Ltd.	5 min	30 sec	90%	95%	99%	0.01%	0.01	40 mints
6	Dishnet DSL Ltd.	Online	25 Sec	96%	99%	100%	Nil	0.01	4.33 Hrs
7	Data Infosys Ltd.	4 min	27 Sec	90%	95%	99%	30 mint	0.01	15 m.ints
8	Bharti Broadband Network Ltd.	Online	22 sec	99%	100%	NA	20 min	0.01	2 hrs
9	HCL Infinet Ltd.	3 min	30 Sec	99%	99.20%	99.50%	18 min	0.005	17 hrs
10	Data Access India Ltd.	Online	30 sec	98%	99%	99.50%	0 min	No Blocked calls	NA
11	Trak Online Net India Pvt. Ltd.	5.5 hrs	31 sec	83%	97%	100%	Nil	0.03	1.5 hrs
12	Icenet.net Limited	2 hrs	20 sec	85%	95%	100%	Nil	0.01	NA
13	(GLIDE) Sab Infotech Ltd.	6 hrs	30sec	90%	95%	100%	30 sec	0.01	Hrs
14	Shyam Internet Services	30 min	30 Sec	98%	99%	100%	30 min	1%	2 hrs
15	Iqara Broadband	2 min	20 sec	95%	97%	99%	Nil	Not provided by BSNL	36 hrs
16	Tata Tele services (MH)	0 sec	25 sec	97.90%	100%	Not Applicable	0 min	0.001	1 hrs
17	Fascel Ltd. **	NA	NA	NA	NA	NA	NA	NA	NA
18	Hathway Cable & Datacom **	NA	NA	NA	NA	NA	NA	NA	NA
19	Rolta India Ltd.	15 sec	27 sec	85.20%	91.40%	99.10%	0	0.001	4.30 mint
20	HFCL Infotel Ltd	2.5 Min	20 Sec	98.10%	99%	100%	0	0.01%	7.99 hrs

Not meet the benchmarks

NA = Not applicable

- a scratch card/Cdonline registration is introduced to achieve this benchmark.

\*\* are not providing Internet Access on Dial Up. Internet Access on Mobile is provided via WAP setup but they have been included in top 20 on the basis of total number of subscribers.