

# Telecom Regulatory Authority of India



The Indian Telecom Services  
Performance Indicators Apr-Jun'04

**September 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 **April-June 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, third and fourth quarters of financial year 2003-2004. Due to the Unified Access Service Regime, the details under mobile services combine both GSM & CDMA. The Fixed Service details also include WLL (F) and Village Public Telephones (VPTs). 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 remains 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 is updated on 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: [traio9@bol.net.in](mailto:traio9@bol.net.in).

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**(ii) Quarterly Results at a Glance**

**Performance Indicators of Telecom Services for QE Jun 2004**

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

	FE 2003	QE Jun 2003	FE 2004	QE Jun 2004	%age growth over Jun 2003 (12 months)	%age growth over last quarter (3 months)
<b>1) Subscriber's Base (in millions)</b>						
i) Fixed Line including WLL(F)	41.48	41.38	42.84	43.51	5.15	1.56
ii) Mobile (GSM + CDMA)	13	17.32	33.69	37.8	118.24	12.20
<b>Gross Total</b>	<b>54.48</b>	<b>58.70</b>	<b>76.53</b>	<b>81.31</b>	<b>38.52</b>	<b>6.25</b>
<b>2) Traffic (MOU) (minutes of use/ sub/month)</b>						
i) Mobile (GSM)	222	266	322	*		
<b>3) ARPU (Rs./sub/ month)</b>						
i) Mobile (GSM)	537	522	436	*		
ii) Mobile (CDMA)			382	*		
<b>4) Teledensity</b>						
Population in million (Estimated)	1047	1050	1067	1070	1.90	0.28
i) Fixed including WLL(F)	3.96	3.94	4.01	4.07	3.18	1.28
ii) Mobile (GSM + CDMA)	1.24	1.65	3.16	3.53	114.17	11.88
<b>Gross Total</b>	<b>5.20</b>	<b>5.59</b>	<b>7.17</b>	<b>7.60</b>	<b>35.93</b>	<b>5.95</b>

\* Information not made available by service providers

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

	FE 2003	QE Jun 2003	FE 2004	QE Jun 2004	%age growth over Jun 2003 (12 months)	%age growth over last quarter (3 months)
<b>1) Subscriber's Base (in million)</b>						
i) Internet	3.64	3.77	4.55	4.93	30.77	8.35
ii) Broadband	0.08	0.09	0.19	0.23	155.56	21.05
<b>2) Minutes of Use (MOU)/ subs/month)</b>						
			400	400		0.00
<b>3) ARPU (Rs/subs/month)</b>						
			406	250		-38.42
<b>4) Internet Telephony MOU (in Million)</b>						
			27.15	22.04		-18.82

**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 Jun 2003</b>	<b>FE 2004</b>	<b>QE Jun 2004</b>	<b>%age growth over Jun 2003 (12 months)</b>	<b>%age growth over last quarter (3 months)</b>
BSNL	35.90	35.73	36.11	36.03	0.84	-0.22
MTNL	4.63	4.55	4.38	4.54	-0.22	3.65
Tata/ Hughes	0.45	0.54	1.00	1.32	144.44	32.00
Bharti	0.37	0.42	0.64	0.70	66.67	9.37
Reliance	0.00	0.0002	0.50	0.68	339900.00	36.00
HFCL	0.08	0.08	0.12	0.14	75.00	16.67
Shyam	0.05	0.06	0.09	0.099	65.00	10.00
<b>Total</b>	<b>41.48</b>	<b>41.38</b>	<b>42.84</b>	<b>43.51</b>	<b>5.14</b>	<b>1.56</b>

**(II) Mobile Services Subscriber Base (in Million)**

<b>Service Providers</b>	<b>FE 2003</b>	<b>QE Jun 2003</b>	<b>FE 2004</b>	<b>QE Jun 2004</b>	<b>%age growth over Jun 2003 (12 months)</b>	<b>%age growth over last quarter (3 months)</b>
Reliance	0.54	2.4	7.26	8.18	240.83	12.67
Bharti	3.07	3.75	6.50	7.67	104.53	18.00
BSNL	2.29	3.22	5.53	6.17	91.61	11.57
Hutch	2.16	2.62	5.15	5.77	120.23	12.04
Idea	1.28	1.47	2.73	2.95	100.68	8.06
BPL Group	1.13	1.17	1.88	2.15	83.76	14.36
Others	0.73	0.78	1.29	1.17	50.00	-9.30
Spic E	0.64	0.71	1.21	1.30	83.10	7.44
Escotel	0.59	0.59	0.99	1.09	84.75	10.10
Tata/ Hughes	0.16	0.2	0.63	0.71	255.00	12.70
MTNL	0.35	0.35	0.46	0.54	54.29	17.39
HFCL	0.03	0.03	0.03	0.034	13.33	13.33
Shyam	0.03	0.03	0.03	0.027	-10.00	-10.00
<b>Total</b>	<b>13.00</b>	<b>17.32</b>	<b>33.69</b>	<b>37.76</b>	<b>118.02</b>	<b>12.08</b>

## Chapter One

### PERFORMANCE OF FIXED SERVICES

Subscriber Base crosses 43.5 million

#### 1.1 SUBSCRIBERS BASE: -

1.1.1 As on 30th June 2004, the Fixed lines were provided by 5 private operators in addition to incumbents BSNL and MTNL.

List of Fixed Service provider's along with their area of operation is given below:

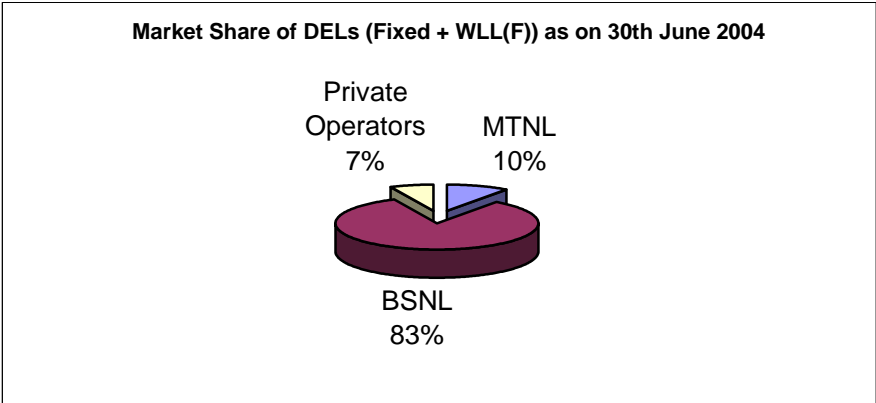
Table 1

S.No.	Name of the Service Provider	Area of Operation
1	BSNL	All India except Delhi & Mumbai
2	MTNL	Delhi & Mumbai
3	Bharti Group	MP, Delhi, Haryana, TN including Chennai, Karnataka
4	Tata Teleservices	Maharastra, AP, TN including Chennai, Karnataka, Gujarat, Delhi
5	HFCL Infotel	Punjab
6	Shyam Telelink	Rajasthan
7	Reliance Infocomm.	AP, Bihar, Delhi, Gujarat Haryana, HP, Karnataka, Kerala, MP, Maharashtra, Mumbai Orissa, Punjab, Rajasthan, TN incl. Chennai UP(E), UP(W), West Bengal, Kolkata

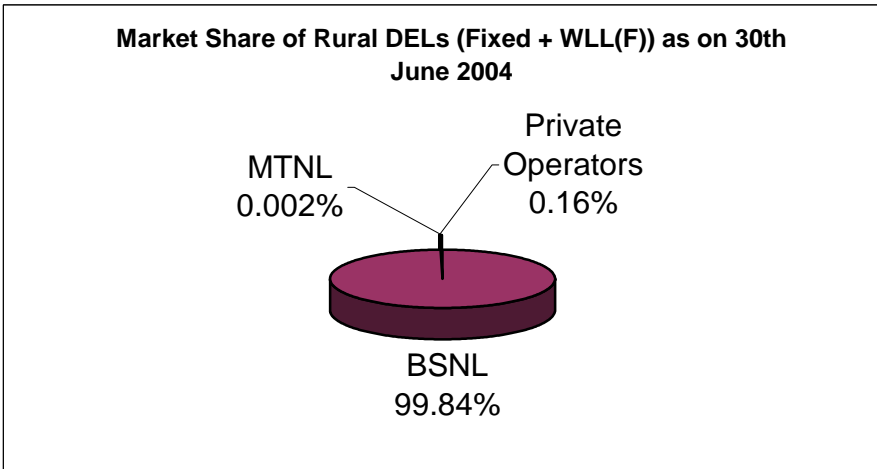
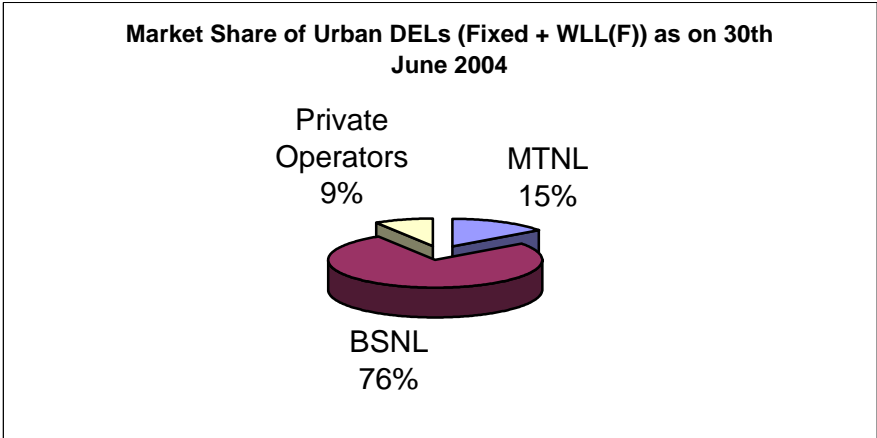
The information in this report is based on the data provided by the Fixed Service Providers. The operator-wise subscriber base is given in Table 1.1.

#### 1.1.2 Market Share of DELs

As on 30th June 2004, the total subscriber base of Fixed lines including WLL (F) & VPTs stood at 43.51 million. The incumbents BSNL and MTNL have 83 % and 10% market share respectively of the subscriber base, while all the five private operators have 7% share. In the current quarter the share of private operators have increased by 3% and the share of BSNL has declined by 2%.

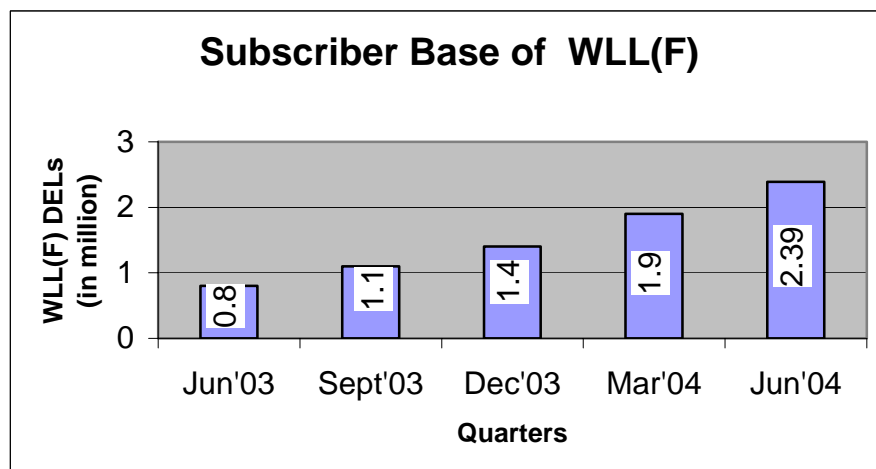
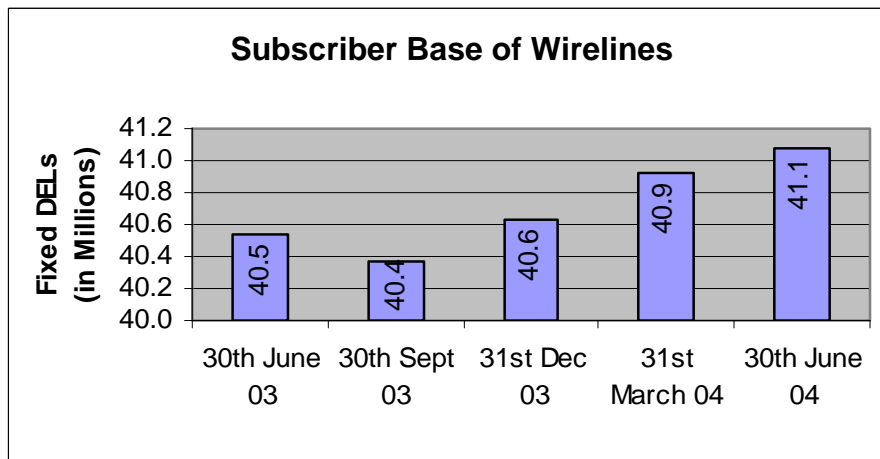
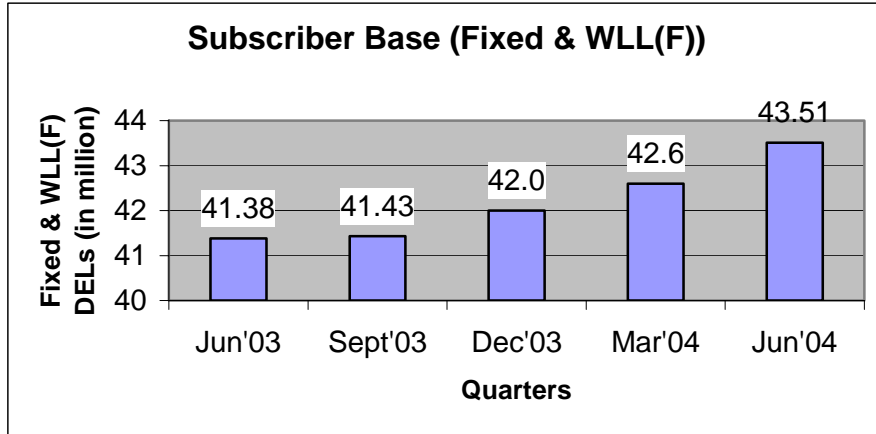


As on 30th June 2004 total urban DELs were 31.18 million and rural DELs including VPTs were 12.32 million. The market share of Fixed Service Providers in Urban DELs and Rural DELs is depicted in the chart below:



1.1.3 Subscriber Base of Fixed & WLL(F) for last five quarters

The subscriber base of the Fixed service sector (including VPTs) for last five quarters is depicted in the bar chart below:

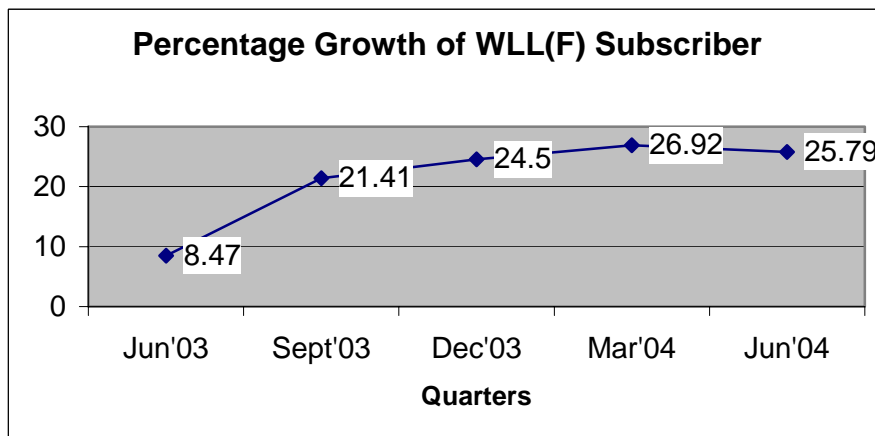
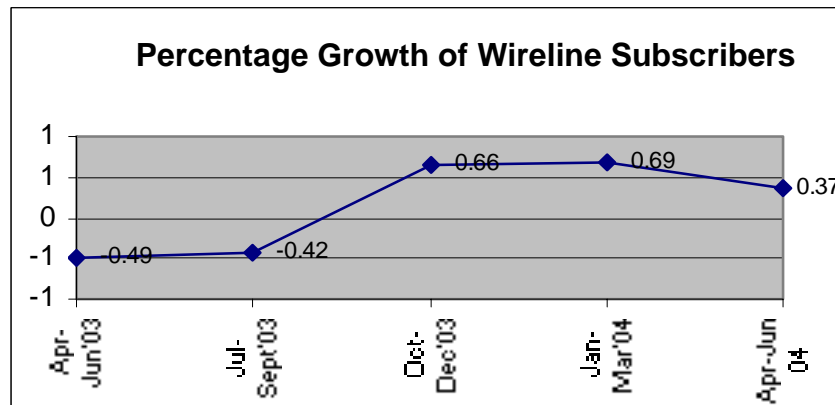
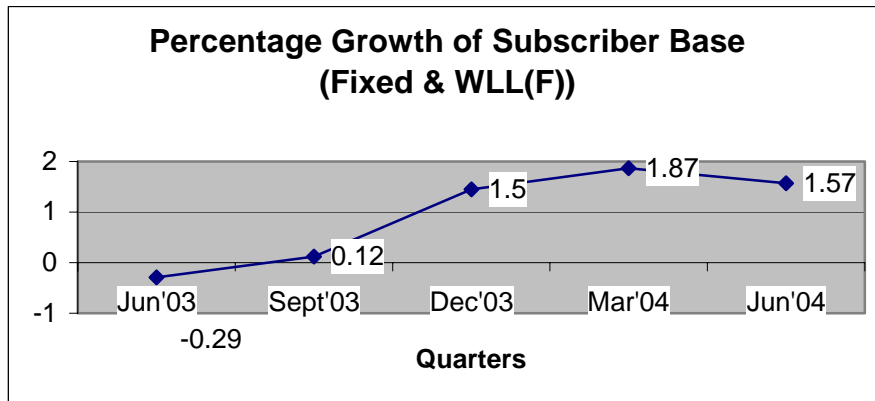




#### 1.1.4 Growth of DELs

The Fixed Service sector has registered a growth of 6,71,480 lines during the Quarter from 1<sup>st</sup> April 2004 to 30<sup>th</sup> June 2004. The actual number of DELs has increased from 4,28,42,607 as on 31<sup>st</sup> March 2004 to 4,35,14,087 as on 30<sup>th</sup> June 2004. The overall percentage of growth in subscriber base during the Quarter was 1.57% as depicted in Table below.

#### **Average percentage growth rate of Fixed, Wireline and WLL(F) Subscribers**

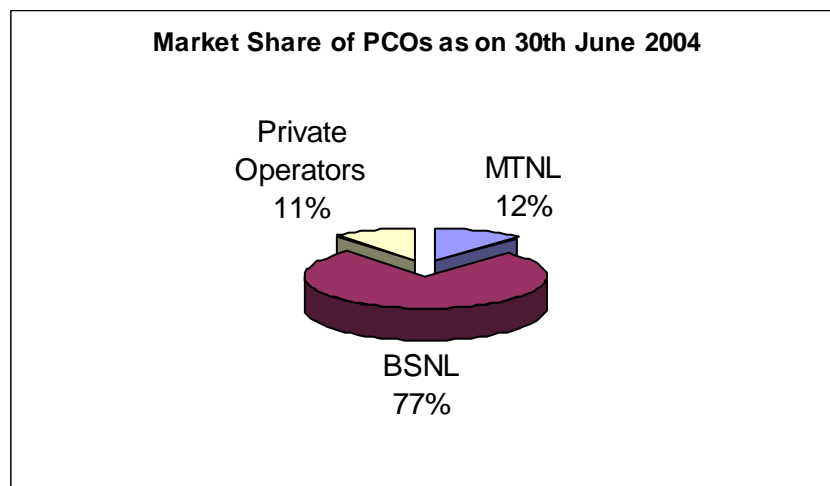


## 1.2 Other Performance Indicators: -

### 1.2.1 Public Call Offices:

During the current quarter 1,03,832 new PCOs have been added. Total number of PCOs in the country as on 30th June 2004 was 20,67,287. The contribution of BSNL was 15,97,482 i.e. 77% of the total PCOs. The contribution of MTNL and other private operators was 2,49,642 (12 %) and 2,20,163(11%) respectively.

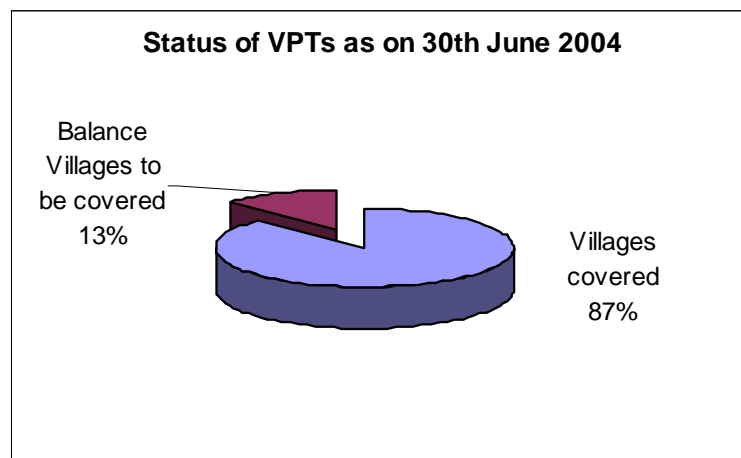
Operator-wise (BSNL / MTNL / Private Operators) market share of PCO is depicted in the chart below. Operator-wise details of PCOs are available at **Table 1.2.**



### 1.2.2. Village Public Telephones:

During the quarter ending 31<sup>st</sup> March 2004 there were 5, 22,307 VPTs in the country whereas by the end of this quarter, the total number of VPTs marginally increased to 5,29,263. Thus 6956 VPTs have been added during the current quarter. The total number of villages left uncovered, as on 30th June 2004 were 85228, out of a total of 6,07,491 villages. During the quarter BSNL has added 4278 VPTs. Among the private operators 135 VPTs have been added during the quarter by M/s HFCL Infotel Ltd.

Operator-wise details of Village Public Telephones as on 30<sup>th</sup> June 2004 and additions during the quarter ending 30<sup>th</sup> June 2004 is available at **Table 1.3**.



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## Chapter Two

### Performance of Mobile Services

<b>Subscriber Base crosses 37.5 million.</b>
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#### **PART A**

**2.0 Details of service providers:** - Following operators were providing cellular mobile (GSM) service (in addition to 6 operators as shown in 1.1 of Chapter 1 providing Mobile (CDMA) services) in the respective service areas: -

<b>Service Provider</b>	<b>Service Area</b>	<b>No. of Circles</b>
Bharti	Andhra Pradesh, Karnataka, Punjab, Delhi, UP(W), MP, Maharashtra, Gujarat, Himachal Pradesh, Mumbai, Tamil Nadu, Kerala, Haryana, Chennai, Kolkata and Rajasthan	16
Hutch	Delhi, Kolkata, Mumbai, Andhra Pradesh, Karnataka, Chennai, Gujarat, Punjab, Haryana, Rajasthan, UP(E)	11
MTNL	Delhi, Mumbai	2
Idea	Gujarat, Madhya Pradesh, Andhra Pradesh, Maharashtra, Delhi	5
Reliance	Madhya Pradesh, West Bengal, Himachal Pradesh, Assam, Bihar, Orissa, NE	7
BPL	Mumbai, Maharashtra, Kerala, Tamil Nadu	4
Aircel	Tamil Nadu, Chennai	2
Spice	Punjab, Karnataka	2
BSNL	Andhra Pradesh, Karnataka, Punjab, UP(W), Madhya Pradesh, Maharashtra, Gujrat, Himachal Pradesh, Tamil Nadu, Kerala, Haryana, Chennai, Kolkata, UP(E), Rajasthan, West Bengal, Bihar, Orissa, North-East, Assam, J&K	21
Escotel	Kerala, Haryana, UP(W)	3

In addition, all the Basic Service Operators migrated to Unified Access service & are providing mobile service. Circle-wise details of Private Unified Access Service Providers at the end of the quarter are given at Annex 2.1.

All the service areas of the country have mobile operators ranging from 3 to 7.

## 2.1 Growth of Subscribers Base: -

### 2.1.1 Subscribers Base

The Mobile service has achieved 37.8 million subscriber mark at the end of quarter ending on 30<sup>th</sup> June 2004, as against 33.7 millions at the end of March 2004.

### 2.1.2 Addition in Subscribers Base

Approximately 4.10 lakhs subscribers were added during April-June, 2004 quarter as against 5.25 lakhs subscribers added during the previous quarter.

### 2.1.3 Growth Rate

All India growth rate in the quarter ending June, 2004 was 12.2% as compared to 18.46% during the quarter ending March, 2004.

### 2.1.4 Company wise Market Share:

- a) The Subscriber Base 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)

Mobile Group	Subscribers on June, 04	Market Share	Technology Used
Reliance Grp	81.79	21.7	GSM & CDMA
Bharti Grp	76.72	20.3	GSM
BSNL	61.72	16.3	GSM & CDMA
Hutchison Grp	57.71	15.3	GSM
IDEA Grp	29.56	7.8	GSM

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

- b) Distribution of Subscriber Base and market share as on June'04 among Metros, Circles A to C is given in Table 2.3.

### 2.1.5 Change in Market Structure

M/s Bharti Televentures Ltd has acquired 67.5% stake in M/s Hexacom India Ltd in Rajasthan and now they are providing services in 16 circles with Unified Access Service License in 22 circles except one circle i.e. North East. Reliance Group is also having Unified Access Service License in 22 circles except one circle i.e. Jammu and Kashmir and is also providing services in all the 22 circles. M/s BSNL is providing Unified Access Services in 21 circles.

## **PART B**

### **2.2 Mobile Tariff Trends: -**

#### **2.2.1 Minimum tariff in Mobile Services for the quarter ending June 2004**

Trends in tariffs on the basis of known weights for key parameters: - The minimum charge (amongst tariffs reported from all circles) available for local calls for Mobile service have been calculated for pots-paid assuming 400 minutes of usage (both incoming and outgoing) per month.

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

<b>Service</b>	<b>Mar-04</b>	<b>Jun-04</b>	<b>% decline over the last quarter</b>
Mobile	0.44	0.44	0

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 no change in the minimum effective charge for mobile services during the quarter under review as compared to the previous quarter.

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## Chapter Three

### Performance of Internet Services

Subscribers base nears 50 million mark
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#### 3.1 Service Providers & Subscribers Base: -

Around 189 Internet Service Providers were operational during quarter ending June 2004. Bharat Sanchar Nigam Ltd (BSNL) has retained its top position and reported a subscriber base of 12,75,522 against 11,28,172 during the last quarter. Videsh Sanchar Nigam Limited has moved up to second position from fourth position with a subscriber base of 9,25,062 against 6,00,509. Mahanagar Telephone Nigam Limited (MTNL) moved down to third position and reported a subscriber's base of 8,48,267 against 6,91,717 subscribers during the last quarter. (ref Table 3.1).

The reported subscriber base has touched 49.26 lakhs as on quarter ending 30<sup>th</sup> June, 2004 as compared to 45.49 lakhs during the preceding quarter registering an increase of 8.28 % during the quarter.

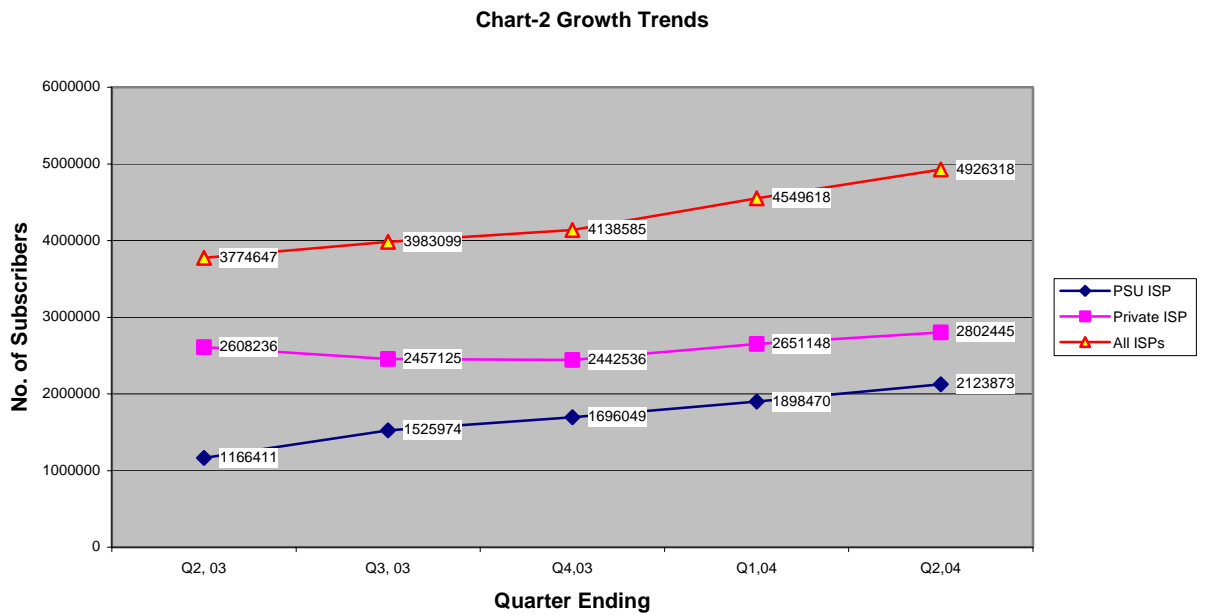
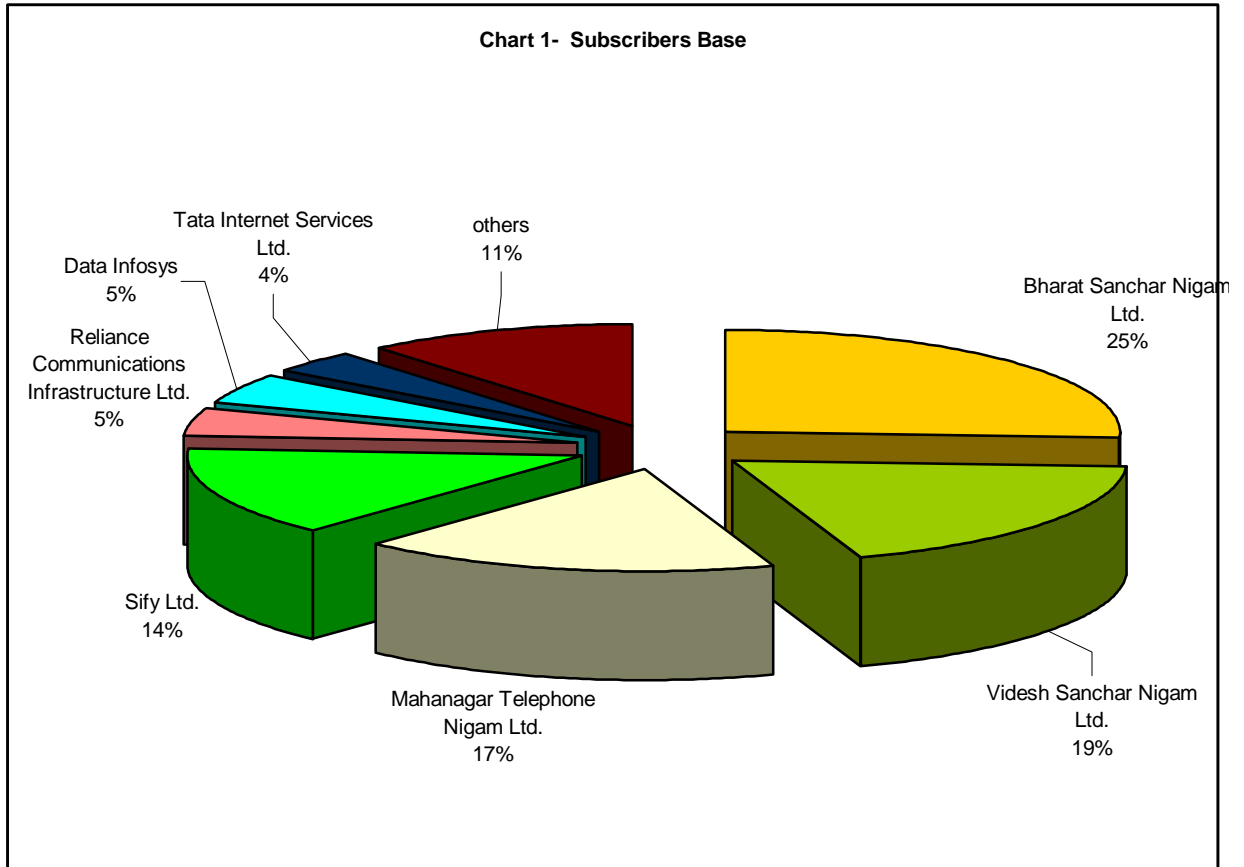
#### 3.2 Internet Telephony: -

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 June,2004, and as per the report submitted to TRAI, 43 ISPs have started Internet Telephony services, the list of these is enclosed at Annex 3.2. Total minutes of the use for Internet Telephony during the quarter were 22.04 million.

#### 3.3 Market Share: -

Bharat Sanchar Nigam Ltd (BSNL) has retained its top position and reported a subscriber base of 12,75,522 against 11,28,172 during the last quarter. Videsh Sanchar Nigam Limited has moved up to second position from fourth position with a subscriber base of 9,25,062 against 6,00,509. Mahanagar Telephone Nigam Limited (MTNL) moved down to third position and reported a subscriber's base of 8,48,267 against 6,91,717 subscribers during the last quarter. M/s Sify Ltd. moved down from third to fourth position during the quarter and has reported a subscriber base of 6,93,181. Reliance Infocomm has reported a subscriber base of 2,24,345 and remained at fifth place during the quarter ending 30<sup>th</sup> June,2004.

Among PSU owned ISPs, M/s BSNL has reported a subscriber's base of 12,75,522 during the quarter ending 30<sup>th</sup> June,2004 as against 11,28,172 during the previous quarter registering an increase of 13.06%. M/s MTNL have reported a subscriber base of 8,48,267 against the subscriber base of 7,69,434 reported during the previous quarter, registering an increase of 10.24 %.



### 3.4 Leased Lines Connectivity: -

The number of Leased Lines connections was 11,581 during quarter ending 30<sup>th</sup> June, 2004.



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

There existed 10417 Cyber Cafes during the quarter ending 30<sup>th</sup> June,2004, out of which 9237 have been franchised by the ISPs and 1090 are non-franchised.

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

The number of 'Always-On' highspeed subscribers has reached 2,26,203 showing a growth of 21% over the previous quarter.

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

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

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

A total of approx. Rs 339 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 250.

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

The bandwidth owned by various IGSP for their ISP operations and Leased lines was reported to be 3.5 GB for downlink and 3.2 GB for uplink.

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## Chapter Four

### Performance of Other Value Added Services

Growth trend continues
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#### 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 30<sup>th</sup> June 2004:

- The subscriber base of PMRTS decreased from 25474 in March 2004 to 25409 in June 2004 registering a negative growth rate of 0.26%.
- After a gap of 4 quarters from Sept.,2002,the PMRTS industry has registered a modest growth in the last three 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 8650 subscribers followed by Mumbai and Bangalore with the market share of 3526 and 3486 subscribers respectively.
- Procall Ltd. leads the tally of subscribers with a subscriber base of 7596 followed by Arvind Mills and Quick Calls Pvt. Ltd with a subscriber base of 6524 and 3593 respectively.
- In the present quarter Mumbai has added maximum number of subscribers (387). This is followed by Bangalore (139)
- In the present quarter, Iconet Communication Pvt. Ltd. has terminated their services.
- Hofintel and ITI Ltd. have not submitted their report since quarter ending June, 2003.

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 30<sup>th</sup> June 2004:

- In the present quarter, there was an addition of 3026 new subscribers. The total number of subscribers increased from 27601 in March, 2004 to 30627 in June 2004 registering a growth of 10.96% against the growth rate of 18.31% in quarter ending March, 2004.
- Hughes Escorts Communications Ltd. (HECL) remained the market leader with 9955 VSAT subscribers followed by HCL Comnet with 9581, Comsat Max with 4085 and Bharti BT with 4053 VSAT subscribers respectively.
- Hughes Escorts Communications Ltd. (HECL) added the maximum number of new connections 1560 with a percentage growth rate of 18.58%.
- Comsat Max had negative growth of 2.97% in this quarter.

The number of subscribers of each service providers from quarter ending 30<sup>th</sup> Sep, 2003 to 30<sup>th</sup> June 2004 along with the Market Share in terms of percentage of subscribers as on 30.06.2004 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 June 2004: -

Based on Quality of Service Parameters reported by Basic Service Operators for the quarter ending June 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 emerge: -

**(1) Provision of telephone within 7 days for exchange areas declared “ On Demand”.**

Only Shyam Telelink (Rajasthan) and Reliance Infocom Limited have met the TRAI's benchmark. The performance of MTNL (Mumbai), Tata (KTK) and BSNL (Most of the circles) is way below the benchmark of 100%.

**(2) Fault incidences per month per 100 telephones (should be less than 3 Fault per 100 phones per month)**

Only Bharti (Delhi & Haryana) and Tata (except Maharashtra & Mumbai) have met the prescribed benchmark of <3 in all service areas.

**(3) Percentage of faults repaired by next working day ( should be >90%)**

16 out of 26 circles of BSNL have met the TRAI's QoS benchmark on Fault Repair by next working day. MTNL (Delhi & Mumbai) has failed to meet the specified QoS benchmarks. Among the private service providers except Tata (Karnataka) and HFCL (Punjab), all others 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) have failed to meet the benchmark. All private BSOs 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 (Delhi & Mumbai) have achieved the desired benchmark. Among the private operators, Tata (Gujarat ) and Bharti (Delhi & Haryana) have not met the stipulated benchmark.

**(6) Call Completion Rate in local network (should be >65%)**

11 out of 26 of BSNL and MTNL (Delhi and Mumbai) have not met the OoS benchmark. Among the private Operators HFCL (PB), Shyam Telelink (RJ), Bharti (TN), Tata (AP, chennai) & Reliance (except Orissa , UP-E, UP-W, HR, RJ, PB, DL, BR) 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 6 out of 26 circles of BSNL have not met the overall QOS benchmark on disputed bills. These circles are Gujarat, MP, NE-I, Orissa, HP & Chennai. MTNL (Delhi & Mumbai) has also not met the same. Among the Private Operators, TATA and Bharti (except in TN & KTK) have not 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 Trunk calls BSNL and MTNL have failed to meet the benchmark in all the circles. Among the private operators TATA (MP) and Bharti , (TN) have met the QoS benchmark.

For Operator assisted ordinary trunk calls BSNL (All circles ) and MTNL (Delhi, Mumbai) have failed to meet the QOS benchmark. Among the private operators only TATA has met the benchmark in MH, KTK & Gujarat circles. Reliance has not reported this parameter.

**(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 (Except in A&N) have failed to meet the requirement on customer care in all circles ( Shifts). MTNL(Delhi, Mumbai) have also failed to meet the requirement on Customer care. Among the private operators only Shyam Telelink and Reliance (all circles) 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 met the benchmark. Among the private operators except Bharti (KTK, Delhi), Tata (KTK, Mumbai, MH, Delhi, AP) and HFCL, (Punjab) have met the stipulated benchmark.

**(iii) Additional Facility:-**

BSNL has not reported the figure for additional facility. MTNL(Delhi and Mumbai ) have failed to meet the QOS benchmark. Bharti (MP, TN, HR, KTK, Delhi), Tata & Shyam (RJ), have not met the QoS benchmark.

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

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

In case of Repeat faults, BSNL in all circles (except in Assam, TN, UTTR) & MTNL (Delhi & Mumbai) have failed to meet the QOS benchmark. Among the private Operators Reliance, HFCL, Bharti and Tata (except Delhi,Gujarat,TN) are within TRAI's benchmark limits.

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

- a) In this quarter all Cellular Mobile Service Providers have submitted their QoS report to TRAI.
- b) Tata indicom WLL (M) has migrated to 10 digits numbering plan, in 8 service areas and submitted the PMR on the format prescribed for Cellular Mobile Service Providers. Hence, Tata indicom has been included in the list of CMSPs 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 benchmarks	
			This Quarter	Previous Quarter
			<b>Out of 78</b>	<b>Out of 69</b>
1.	No. of faults (per 100 subscribers per	<1	16	9
2	Faults cleared within 24 hrs	100.00%	29	26
3	Accumulated down time of community isolation	<24 hrs	11	13
4	Call Success Rate (within licensee's own network)	>99%	35	24
5	Service Access Delay	Between 9 to 20 Sec	0	0
6	Call Drop Rate	<3.0%	1	1
7	% of connection with good voice quality	>95%	11	8
8	Complaints per 100 bills issued	<0.1%	35	23
9	% of complaints resolved with 4 weeks	100.00%	9	10
10	Period of all refunds/payment due to customers from the date of resolution of complaints as in (ii) above	<4 weeks	4	3

### 5.2.1 The analysis of QoS of 78 CMSPs is as under: -

- i) **From the table, it is observed that out of ten only three parameters namely Accumulated down time of community isolation, Call Drop Rate, and %age of complaints resolved within 4 weeks are showing improvement in the performance as compared to previous quarter.**
- ii) **No. of faults (per 100 subscribers) for BSNL, Kolkata is 3.90%, which is way beyond the stipulated benchmark of TRAI <1%.**
- iii) **For the parameter “Fault cleared within 24 hrs” the performance of BSNL (MH, UP (W), HP, KOLKATA) Haxacom (RAJ), BPL (MH) and TATA (AP, Delhi) are 71%, 82%, 71.30%, 73.70%, 54.13%, 62% and 84%, 84% respectively, which is way below the stipulated benchmark of 100%.**
- iv) **The Call Success Rate for BSNL (MH, KR) and Bharti cellular (MH & Goa) are 85.60%, 87.40% and 89.14% respectively, which is much below the benchmark of 99%.**
- v) **No. of Complaints per 100 bills issued for BSNL (MH, KTK, KR, PB, RJ, HP, KOLKATA), Hutchison Essar (AP) and TATA (GJ, Mumbai) are 1.6%, 3.1%, 1.6%, 6.7%, 1.2%, 1.2%, 1.5%), 2.13% , 1.82% and 3.12% respectively, which is way beyond the benchmark of 0.1%.**

### 5.2.2 Details of Quality of service:

**Detail of performance 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 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.

5.3.2 The observations on QOS Benchmarks is as follows:

#### 5.3.2.1 Service Activation Time:

All the ISPs have met the benchmark of 6 hrs.

#### 5.3.2.2 Time to Access:

ISPs are required to achieve the benchmark 30 sec. All ISPs except one have met this target in this quarter.

**5.3.2.3 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.

**5.3.2.4 ISP Node unavailability:**

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

**5.3.2.5 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. One ISP (Trak Online Net India Pvt. Ltd.) has not able to meet the target, another ISP (Reliance Communications Infrastructure Ltd.) has informed that the information regarding the above mentioned benchmark can not be provided as the BSO has not given the information to them.

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

As per clause 1.9 schedule 'C' of ISP license, ISPs are required to rectify 90% of faults resulting due to subscriber complaints within 24 hours and 99% within three days.

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

\*\*\*\*\*



Table 1.1

## Subscriber Base of Fixed Services

Operator wise details of Subscriber base as on 30 <sup>th</sup> June 2004					
Sr. No.	BSO	Area of Operation	30th June 2004		
			Urban	Rural	Total
1	BSNL	All India (except Delhi & Mumbai)	23719306	12313020	36032326
2	MTNL	Delhi & Mumbai	4543464	191	4543655
3	Bharti Group	MP, Delhi, Haryana, Tamil Nadu including Chennai, Karnataka	703823	607	704430
4	Tata Teleservices	Maharashtra, AP, Tamil Nadu, Karnataka, Gujarat, Delhi, Chennai	1315481	4061	1319542
5	HFCL Infotel	Punjab	138284	968	139252
6	Shyam Telelink	Rajasthan	96248	3010	99258
7	Reliance Infocom	AP, Bihar, Delhi, Gujarat, Haryana, HP, Karnataka, Kerala, MP, Maharashtra, Mumbai, Orissa, Punjab, Rajasthan, Tamil Nadu incl. Chennai UP(E), UP(W), West Bengal, Kolkata	663662	11962	675624
<b>Grand Total</b>			<b>31180268</b>	<b>12333819</b>	<b>43514087</b>

Table 1.2

## Details of Public Call Offices (PCO)

S. No	Service Providers	Area of Operation	PCOs as on 30.06.04	PCOs Added during the quarter
1	BSNL	All India (except Delhi & Mumbai)	1597482	77796
2	MTNL	Delhi & Mumbai	249642	9988
3	Bharti	MP, Delhi, Haryana, Tamil Nadu Including Chennai, Karnataka	78577	4708
4	HFCL	Punjab	23707	1444
5	Tata Teleservices	Maharastra, AP, Tamil Nadu Including Chennai, Karnataka, Gujarat, Delhi	58110	6288
6	Reliance Infocom	AP, Bihar, Delhi, Gujarat, Haryana, HP, Karnataka, Kerala, MP, Maharashtra, Mumbai, Orissa, Punjab, Rajasthan, Tamil Nadu (incl. Chennai), UP(E), UP(W), WB, Kolkata	45266	3452
7	Shyam Telelink	Rajasthan	14503	156
	<b>TOTAL</b>		<b>2067287</b>	<b>103832</b>

\* Source - Operators

Table 1.3

## Details of Village Public Telephones (VPT)

S. No	Service Providers	Area of Operation	VPTs * as on 30.6.04	Additions during the Quarter (Apr-June 04)
1	BSNL	All India (except Delhi & Mumbai)	513769	4278
2	MTNL	Delhi & Mumbai	191	0
3	Bharti	MP, Delhi, Haryana, Tamil Nadu including Chennai, Karnataka	607	0
4	HFCL	Punjab	968	135
5	Tata Teleservices	Maharastra, AP, Tamil Nadu Including Chennai, Karnataka, Gujarat, Delhi	4061	0
6	Reliance Infocom	AP, Bihar, Delhi, Gujarat, Haryana, HP, Karnataka, Kerala, MP, Maharashtra, Mumbai, Orissa, Punjab, Rajasthan, Tamil Nadu (incl. Chennai), UP(E), UP(W), WB, Kolkata	6657	2543
7	Shyam Telelink	Rajasthan	3010	0
	<b>TOTAL</b>		<b>529263</b>	<b>6956</b>

\* Source - Operators

\* VPTs figures shown above are also included in Rural DELs shown in Table 1.1

Table 2.1

**Subscriber Base of Mobile operators**

<b>Mobile Groups and their market share</b>			
<b>Mobile Group</b>	<b>Subscribers on June, 04</b>	<b>Market Share</b>	<b>Technology Used</b>
Reliance Grp	8,179,429	21.7	GSM & CDMA
Bharti Grp	7,672,123	20.3	GSM
BSNL	6,171,736	16.3	GSM & CDMA
Hutchison Grp	5,770,593	15.3	GSM
IDEA Grp	2,955,528	7.8	GSM
BPL Grp	2,148,393	5.7	GSM
Spice Grp	1,302,997	3.4	GSM
Aircel Grp	1,171,814	3.1	GSM
Escotel Grp	1,089,945	2.9	GSM
Tata Teleservices	709,332	1.9	CDMA
MTNL	537,169	1.4	GSM & CDMA
HFCL	33,983	0.1	CDMA
Shyam Telelink	27,124	0.1	CDMA
<b>Total Subscribers</b>	<b>37,770,166</b>	<b>100</b>	<b>GSM &amp; CDMA</b>

\* Source - Operators

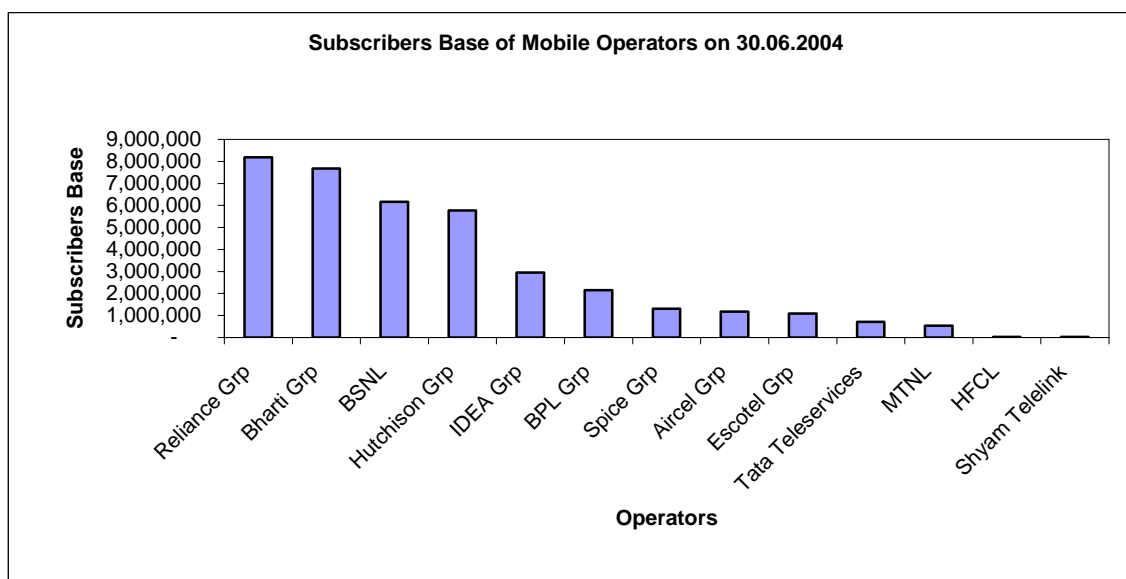


Table 2.2

### Market Share of Mobile (GSM + CDMA) Service Providers

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

<b>Cellular Group</b>	<b>No of Subscribers</b>	<b>Market Share</b>
Bharti Group	7672123	26.3
BSNL	5793800	19.8
Hutchison Group	5770593	19.8
Idea Group	2955528	10.1
BPL	2148393	7.4
Spice Group	1302997	4.5
Escotel	1089945	3.7
Reliance Group	881710	3.0
MTNL	416873	1.4
Others - Aircel Group	1171814	4.0
<b>Total</b>	<b>29203776</b>	<b>100</b>

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

<b>CDMA Group</b>	<b>No of Subscribers</b>	<b>Market Share</b>
Reliance Infocomm	7297719	85.19
Tata Teleservices	709332	8.28
BSNL	377936	4.41
MTNL	120296	1.40
HFCL	33983	0.40
Shyam Telelink	27124	0.32
<b>Total</b>	<b>8566390</b>	<b>100</b>

### Growth Pattern of Mobile Subscriber Base

#### Cellular Subscribers Base

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

<u>Circle</u>	<u>No. of Subscribers</u>	<u>Market Share</u>
Metros	11.53 million	30.53%
Circles 'A'	13.86 million	36.71%
Circles 'B'	10.84 million	28.79%
Circles 'C'	1.53 million	4.06%

The details are given below:

Category	March'04	June'04
Metros	10.55	11.53
A' Circle	12.55	13.86
B' Circle	9.29	10.84
C' Circle	1.31	1.53

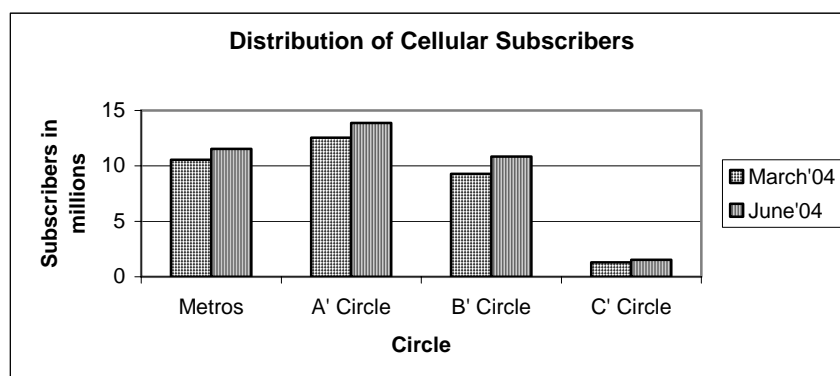


Table 3.1

## Subscribers Base of Internet Services

S. NO.	Name of ISP	Category	Area of Operation	Total subscribers as on 31st March 2004	Total subscribers as on 30th June 2004
1	Bharat Sanchar Nigam Ltd.	A	All India	1128172	1275522
2	Videsh Sanchar Nigam Ltd.	A	All India	600509	925062
3	Mahanagar Telephone Nigam Ltd.	B	Mumbai & Delhi	766585	848267
4	Sify Ltd.	A	All India	658192	693181
5	Reliance Communications Infrastructure Limited	A	All India	174038	224345
6	Data Infosys	A	All India	198993	223850
7	Tata Internet Services Ltd.	A	All India	179224	179477
8	Bharti Infotel Ltd. (Bharati Broadband Network Ltd.(Bharti BT Internet Ltd))	A	All India	73872	64430
9	HCL Infinet Ltd.	A	All India	55242	56135
10	Sab Infotech	B	Punjab, Karnal & Dharamshala	29839	31660
11	ICENET.NET Ltd.	B	Gujarat	28937	31317
12	Shyam Internet Service Pvt. Ltd.	A	All India	24335	30788
13	BG Broadband India Pvt. Ltd.	B	Surat SSA, Mumbai	30367	30367
14	Trak Online Net India	A	All India	31210	25588
15	Hathway Cable & Data Pvt Ltd.	A	All India	19447	23172
16	Tata Teleservices (Maharashtra) Ltd. (Hughes Telecom)	A	All India	20483	21594
17	Data Access Pvt. Ltd.	A	All India	40769	20398
18	Fascel Ltd.	B	Gujarat	18001	18001
19	WWW Communications Ltd.	B	Delhi	11988	13032
20	Roita India Ltd.	B	Mumbai	12783	12042
21	Broadband Pacenet (I) Pvt. Ltd.	B	Mumbai		10800
22	Emmsons Infotech Ltd.	B	Punjab	10200	10200
23	HFCL Infotel Ltd.	B	Punjab	8534	9852
24	Asianet Sattelite Communications Ltd.	B	Kerala	7242	9050
25	S. S. net Com Pvt Ltd.	B	North East	6759	6968
26	Wilnet Communications	B	Gujarat	6073	6192
27	Primus Telecommunications India Ltd.	A	All India	5940	5940
28	RPG Infotech Ltd. (Sprint RPG India)	A	All India	5047	5299
29	Seven Star Dot Com Pvt. Ltd.	B	Khar(w), Jogeshwari (w)	4297	5101
30	In 2 Cable.com(India) pvt. Ltd.	A	All India	4433	5003
31	Space Online (P) Ltd.	B	Gujarat	3803	4332
32	Southern Online Services Ltd.	B	Andhra Pradesh	5063	4263
33	Nettlinx Ltd.	B	Andhra Pradesh	2124	4102
34	Jindal Online.com Ltd.	B	Gujarat	3177	3177
35	E-Comm Opportunities Pvt. Ltd.	B	Gujarat	2802	3124
36	City Online Services Pvt. Ltd.	B	Andhra Pradesh & Karnataka	6525	3033
37	Spectra Net Ltd	A	All India	1941	2940
38	Narmada Cyberzone Pvt. Ltd.	B	Gujarat	2910	2910
39	Forum Infotech (P) Ltd.	C	Srinagar SSA	2882	2882
40	Blazenet Pvt. Ltd.	B	Gujarat	2774	2809
41	West Bengal Electronics Industry Development Corporation Ltd.	B	Kolkata	2475	2745
42	Data Link Impex Pvt. Ltd.	B	Gujarat	2709	2709

43	Sixth Sense Informatics Pvt. Ltd.	B	Mumbai	2550	2550
44	Navin.com (I) Pvt. Ltd.	A	All India	2257	2257
45	Digital 2 Virtual ISP Private Ltd.	C	Vadodara	2021	2199
46	Hughes Escorts Communications Ltd.	A	All India	1286	2027
47	Primenet Global Ltd.	A	All India	2056	2001
48	iPath India Pvt. Ltd.	C	Ernakulam	2275	1983
49	Ankhnet Information Pvt. Ltd.	B	Mumbai	1691	1977
50	Trikon Electronics	B	Mumbai	1433	1750
51	HCL Comnet	A	All India	1227	1718
52	Kelnet Communication Services (P) Ltd.	C	Trivendrum	1715	1715
53	Pioneer Online Service Pvt. Ltd.	B	Andhra Pradesh	1609	1630
54	Tawi e.com	C	Jammu Tawi	1611	1611
55	Descon Ltd.	B&C	Kolkata, West Bengal	1682	1555
56	Pacific Internet India	A	All India	1732	1400
57	Ortel Communications Ltd.	C	Bhubaneshwar	987	1382
58	Vasnet Communications Pvt. Ltd.	C	Mangalore SSA	5008	1320
59	Mylai Karpagamba Information System Pvt. Ltd.	B	Chennai	1251	1275
60	Online Media Solutions Ltd.	B	Andhra Pradesh	1201	1201
61	Swiftmail Communications Ltd.	A	All India	1256	1169
62	Siti Cable Network (Zee Interactive Multimedia Ltd.)	A	All India	1113	1153
63	Weikfield Mnemonix Infonetworks Pvt. Ltd.	B	Pune	1150	1150
64	Comsat Max Ltd.	A	All India	982	1042
65	GTL Ltd.	A	All India	3245	1028
66	Jain Info net Pvt Ltd.	B	Rajasthan	916	986
67	Patriot Automation	A	All India	956	956
68	Spectrum softech Solutions	C	Ernakulam SSA	929	955
69	Hathway Bhawani Cable & Datacom	B	Mumbai	856	949
70	Micky Online Pvt. Ltd.	C	Moradabad, Nainital	1105	850
71	ERNET India Ltd.	A	All India	780	837
72	Broadlane Network Pvt. Ltd.	C	Kalyan SSA	617	774
73	Bhasinsoft India Ltd.	B	Karnataka	922	761
74	IOL Broadband Ltd. (India Online Network Ltd.)	B	Mumbai	721	721
75	Speed Online.net Pvt. Ltd.	C	Rajkot	655	719
76	Rida Communications Pvt. Ltd.	C	Aligarh	1291	703
77	Sujan Engineering Pvt. Ltd.	C	Vadodara SSA	667	667
78	Bohra Prastithan Pvt. Ltd.	C	Udaipur SSA	675	665
79	Value Healthcare Ltd.	B	Mumbai	476	630
80	Opto Networks Pvt.Ltd.	C	Ghaziabad, Meerut SSA	624	624
81	CJ Online Pvt. Ltd.	C	Ghaziabad SSA	402	594
82	Kappa Infotech Pvt Ltd.	C	Kota SSA	594	594
83	Growth Compusoft Exports Ltd.	B	Gujarat	603	559
84	Chanchalan Electronics Pvt. Ltd.	C	Ranchi	531	531
85	Antriksh Technologies Pvt. Ltd.	C	Jammu SSA	489	516
86	Viraj Telecom Ltd.	B	Karnataka	502	502
87	Bhaskar Multinet Pvt. Ltd.	C	Jaipur SSA	465	465
88	Quest Consultancy Pvt. Ltd.	C	Valsad	454	439
89	Lee & Nee Softwares (Exports) Ltd.	C	Bhubaneshwar	423	422
90	deLaila Industry Pvt. Ltd.	C	Srinagar SSA	416	416
91	Silicon Mountains (I) Ltd.	B	Maharashtra	409	409
92	Websurf Pvt. Ltd.	C	Kalyan SSA	468	398



93	Gateway Systems Pvt. Ltd.	A	All India	353	393
94	Jumpp India Pvt. Ltd.	A	All India	441	350
95	My Net Services Pvt	C	Salem	395	346
96	Mac Info Pvt. Ltd.	B	Hydrabad	340	340
97	ISP Solutions India pvt. Ltd.	C	Coimbatore SSA	296	335
98	My Guru Online	B	Andhra Pradesh	329	329
99	Rajasthan Telematics Ltd.	B	Rajasthan	325	325
100	GUJ Info Petro Ltd.(GIPL)	A	All India	311	311
101	Excel Infotech Ltd.	B	Punjab	308	308
102	Excel media Pvt Ltd.	B	Andhra Pradesh	308	308
103	Digital Nagpur Online Pvt. Ltd.	C	Nagpur	315	304
104	Vital Continuity Electronics Pvt. Ltd.	C	Ranchi SSA	300	300
105	SpaceCom Broadband Network Ltd.	B	Delhi	476	292
106	Bareilly Communications Pvt Ltd.	C	Bareilly SSA	290	290
107	Sanchar Telenetwork Pvt. Ltd.	C	Bhavnagar SSA	283	283
108	n-Logue Communications(P) Ltd	A	All India	210	266
109	Diksha Cyber city (P) Ltd.	C	Sri Ganganagar	199	237
110	CJM Consultancy Services Pvt. Ltd.	B	Delhi	182	232
111	Emtici Engineering Ltd.	C	Khera SSA	207	207
112	Planet Internet Satellite Pvt. Ltd.	C	Nadiad SSA	221	203
113	NetMagic Solutions (P) Ltd.	B	Mumbai	167	198
114	Swastik netvision telecom pvt. Ltd.	B	Gujrat	175	178
115	Starnet Online Services Ltd.	C	Visakhapatnam SSA	294	154
116	Surevin Internet Services Ltd	C	Ghaziabad SSA	157	150
117	Trans Virtual Pvt. Ltd.	C	Guwahati	150	150
118	Dialnet Communications Ltd.	B	Delhi	159	145
119	Assured Web Technologies Pvt.	C	Bhopal SSA	143	143
120	Srishti Open systems Pvt ltd.	C	Trivendrum	142	143
121	North East Online Services Pvt. Ltd.	C	Guwahati	126	141
122	Aksh Broadband Ltd.	C	Jaipur SSA	140	140
123	Chandra net Pvt. Ltd.	B	Gujrat	140	140
124	del DSL Internet Pvt. Ltd.	B	Delhi, Ghaziabad, Gurgaon	124	139
125	Trident Netcom Solutions Pvt. Ltd.	A	All India	136	136
126	Manipal Ecommerce Ltd. (Manipal Control Data Electronic Commerce Ltd.)	B	Karnataka	111	127
127	A-Team Information Technology Ltd.	C	Erode	125	125
128	Bhupati Hotels Pvt. Ltd.	C	Visakhapatnam	138	123
129	Estel Comm. Pvt. Ltd.	A	All India	105	120
130	Q Tel Comtech Ltd.	C	Gurgaon	109	109
131	Reach Network India Pvt. Ltd.	A	All India	50	105
132	Broad Range Application Integrated Networks Solutions Pvt. Ltd.	C	Bokaro SSA	88	88
133	Amber Online Services Ltd.	B	Hydrabad	86	86
134	Gujrat State Petroleum Corp Ltd.	B	Gujarat	86	86
135	Centre for Development of Advanced Computing, C-DAC (Electronics Research and Development Centre of India (ER&DC)	C	Ghaziabad	76	76
136	Master Chip	C	Nizamabad	72	72
137	i2i Enterprise Ltd.	A	All India	36	65
138	L&T Finance Ltd. (L&T Netcom Ltd.)	A	All India	60	61
139	Micromap Satcom Pvt. Ltd.	C	Lucknow	60	60
140	Direct Internet Pvt. Ltd.	B	Delhi	56	56
141	shreedhar Infosys Ltd.	C	Varanasi SSA	61	54
142	Czars Oleoresin Pvt. Ltd.	C	Gulbarga	90	49

143	Apna Telelink Pvt LTD	C	Jalandhar SSA	46	46
144	Access Online Pvt. Ltd.	B	Mumbai	49	45
145	Tata Power Company Ltd.	A	All India	66	37
146	Arun Girija Communications Pvt Ltd.	C	Patna SSA	42	36
147	Indian Quotations Systems Pvt. Ltd.	B	Mumbai	32	32
148	Karvy Consultant Ltd.	B	Andhra Pradesh	30	30
149	PBC Venture Ltd. (earlier Chemical & Metallurgical Design Co. Ltd..0)	B	Delhi	14	20
150	Sree Sree Infotainment Pvt. Ltd.	C	Vishakapatnam	20	20
151	Paya Computers Services (P) Ltd.	C	Dhanbad	19	19
152	Essel Shyam Communication Ltd,	A	All India	18	18
153	GNFC	A	All India	21	18
154	MX Solutions Pvt. Ltd.	B	Kerala	17	17
155	Astra Infonets Pvt. Ltd.	B	Hydrabad	12	15
156	Ice Network (P) Ltd.	B	Bangalore	15	15
157	World Phone Internet services (P) Ltd.	A	All India	15	15
158	Astro Network India Pvt. Ltd.	A	All India	13	13
159	RailTel Corporation of India Ltd.	A	All India	12	12
160	Beacon Broadband Networks Pvt. Ltd.	C	Durg SSA	10	10
161	Uttar Pradesh Network Pvt. Ltd.	B	Uttar Pradesh (E&W)	10	10
162	World tel TamilNadu Pvt. Ltd.	B	Tamilnadu circle excluding Chennai	10	10
163	Cyquator Technologies Ltd.	A	All India	7	9
164	Samkhya Networks (P) Ltd.	C	Gurgaon	8	8
165	Software Technology Park of India	A	All India	8	8
166	Bihar Network Pvt. Ltd.	B	Bihar	5	5
167	Giga Solutions Pvt. Ltd.	B	Maharashtra	5	5
168	Haryana Cybernet Pvt. Ltd.	B	Haryana	5	5
169	Indus ind Cable Television Pvt. Ltd.	B	Mumbai	5	5
170	Infomagic Services Pvt. Ltd.	B	Mumbai	5	5
171	Kerala communication Network Pvt. Ltd.	B	Kerala	5	5
172	Kushagra Telecom Pvt Ltd.	C	Ghaziabad SSA	16	5
173	MP Network Pvt. Ltd.	B	Madhya Pradesh	5	5
174	Orissa Network Pvt. Ltd.	B	Orissa	5	5
175	Punjab Communications Ltd	B	Punjab	5	5
176	Punjab Cybernet pvt. Ltd.	B	Punjab		5
177	Tandem Infotech Pvt. Ltd.,	C	Trivandrum	5	5
178	Godrej Infotech Ltd.	B	Mumbai	4	4
179	Compucom (I) Ltd.	C	Jaipur SSA	3	3
180	Surana Telecom Ltd.	B	Andhra Pradesh	3	3
181	Worldwide com Pvt. Ltd.	C	Saharanpur	3	3
182	Bharti Aquanet Ltd.	A	All India	2	2
183	CMC Ltd.	A	All India	2	2
184	Bharat Connect Ltd.	B	Delhi	2	1
185	iServe India Pvt Ltd.	A	All India	1	1
186	Nomus Internet Systems	B	Andhra Pradesh	14	1
187	Reliance Engineering Associates Pvt. Ltd. (Broadband Solutions)	A	All India	1	1
188	Tata Power Broadband Company Ltd.	B	Mumbai		1
189	Vehtel Obconic Internet Protocol Pvt. Ltd.	B	Andhra Pradesh		1
	<b>Total</b>			<b>4549618</b>	<b>4926318</b>

**Table 4.1**

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

Total number of operators: 15

Number of operators who submitted reports: 13

Sr. No.	Name of the Service Provider	Operative Area	Subscriber Base as on 31-03-2003	Subscriber Base as on 30-06-004
1	Aryadoot Transport Pvt Limited	Vishakhapatnam	930	939
	<b>Total</b>		<b>930</b>	<b>939</b>
2	Jet-Aiu Skyline Transport Pvt Ltd.	Indore	377	370
	<b>Total</b>		<b>377</b>	<b>370</b>
3	Container Movement (Bombay) Transport Pvt Ltd.	Delhi	239	239
	<b>Total</b>		<b>239</b>	<b>239</b>
4	Arya Offshore Services Pvt Ltd.	Mumbai	944	901
		Chennai	828	717
	<b>Total</b>		<b>1772</b>	<b>1618</b>
5	Hapag Llyod (German Express Shipping Agency (India) Pvt Ltd.	Navi Mumbai (Belapur)	474	396
		Delhi	343	353
	<b>Total</b>		<b>817</b>	<b>749</b>
6	United Liner Agencies of India (Pvt) Ltd	Delhi	815	569
		Jamnagar	0	0
		Calcutta	1039	953
	<b>Total</b>		<b>1854</b>	<b>1522</b>
7	Procall Limited	Delhi	6237	6475
		Jaipur	220	219
		Gurgaon	605	629
		Faridabad	299	273
	<b>Total</b>		<b>7361</b>	<b>7596</b>
8	The Arvind Mills Ltd.	Delhi	984	948
		Faridabad	1	1

		Mumbai	1118	1182
		Vashi	46	46
		Ahmedabad	311	305
		Baroda	635	668
		Surat	871	920
		Chennai	1069	1022
		Bangalore	1146	1432
	<b>Total</b>		<b>6181</b>	<b>6524</b>
9	Iconet Communication Pvt. Ltd	Kotagiri	License Surrendered	License Surrendered
		Yercaud	License Surrendered	License Surrendered
		Kodaikanal	License Surrendered	License Surrendered
	<b>Total</b>		<b>0</b>	<b>0</b>
10	Smartalk Pvt Limited	Pune	442	449
		Vashi	433	420
		Mumbai	290	303
	<b>Total</b>		<b>1165</b>	<b>1172</b>
11	QuickCall	Bangalore	1776	1794
		Hyderabad	935	925
		Chennai	879	874
	<b>Total</b>		<b>3590</b>	<b>3593</b>
12	Bhilwara Telenet Services Pvt Limited	Mumbai	787	744
		Delhi	0	0
	<b>Total</b>		<b>787</b>	<b>744</b>
13	Mobilkom India Limited	New Delhi	66	66
		Shimla	17	17
		Dhanbad	0	0
	<b>Total</b>		<b>83</b>	<b>83</b>
14	India Satcom Ltd.	Bangalore	318	260
	<b>Total</b>		<b>318</b>	<b>260</b>

15	ITI LTD.	Madurai	Report Not Submitted	Report Not Submitted
		Hyderabad		
		Chennai		
		Ahmedabad		
		Vadodra		
	<b>Total</b>		<b>NA</b>	<b>NA</b>
16	Hofintel Ltd.	Hyderabad	Report Not Submitted	Report Not Submitted
		Chennai		
	<b>Total</b>		<b>NA</b>	<b>NA</b>
	<b>Grand Total</b>		<b>25474</b>	<b>25409</b>

Table 4.2

## Subscriber Base of VSAT Service Providers

S.No.	Service Provider	30.9.2003	31.12.2003	31.03.2004	30.6.2004	Percentage of Market Share (%) as on 31.06.2004
1	Hughes	5928	7263	8395	9955	32.50%
2	HCL Comnet	4578	5833	8376	9581	31.28%
3	Comsat Max	3700	3833	4210	4085	13.34%
4	Bharti BT	3462	3824	3829	4053	13.23%
5	Essel Shyam	1631	2005	2040	2066	6.75%
6	Tata Services	90	176	367	503	1.64%
7	Telstra Vishesh*	156	159	159	159	0.52%
8	RPG Satellite Communications Pvt. Ltd.	87	91	79	79	0.26%
9	HFCL*	67	67	67	67	0.22%
10	ITI	53	53	53	53	0.17%
11	GNFC*	26	26	26	26	0.08%
	<b>Total</b>	<b>19778</b>	<b>23330</b>	<b>27601</b>	<b>30627</b>	<b>100%</b>

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

### Details of Basic Service Licenses issued to private operators

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

## List of Private Unified Access Service Providers

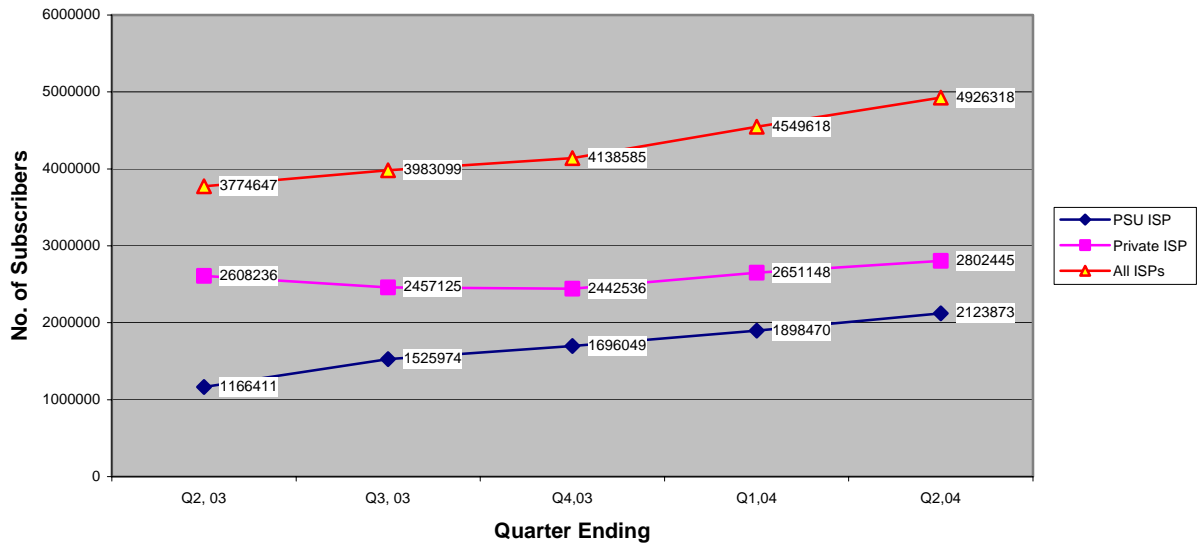
SERVICE AREA	Name of Service Provider
<b>Metro and Category A Service Areas</b>	
Delhi	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd.
Mumbai	Reliance Infocomm Ltd., Tata Teleservices (Maharashtra) Ltd., Bharti Cellular Ltd.
Chennai	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd.
Kolkata	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd.
Andhra Pradesh	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Mobile Ltd.
Gujarat	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd.
Karnataka	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Mobile Ltd.
Maharashtra	Reliance Infocomm Ltd., Tata Teleservices (Maharashtra) Ltd., Bharti Cellular Ltd.
Tamil Nadu	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd.
<b>Category B Service Areas</b>	
Haryana	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd.
Kerala	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd.
Madhya Pradesh	Bharti Infotel Ltd., Reliance Infocomm Ltd., Tata Tele Service Ltd., Bharti Cellular Ltd.
Punjab	HFCL Infotel Ltd., Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Mobile Ltd., Spice Communication Pvt. Ltd.
Rajasthan	Reliance Infocomm Ltd., Shyam Telelink Ltd., Tata Teleservices Ltd.
U.P. (West)	Hutchison Essar South Ltd. , Reliance Infocomm Ltd.,Tata Teleservices Ltd., Bharti Cellular Ltd.
U.P. (East)	Bharti Cellular Ltd., Reliance Infocomm Ltd., Tata Teleservices Ltd.
West Bengal	Bharti Cellular Ltd., Reliance Infocomm Ltd., Tata Teleservices Ltd., Hutchison Essar South Ltd., Dishnet DSL Ltd.
<b>Category C Service Areas</b>	
Assam	Dishnet DSL Ltd.
Bihar	Bharti Cellular Ltd., Reliance Infocomm Ltd., Tata Teleservices Ltd., Dishnet DSL Ltd.
Himachal Pradesh	Reliance Infocomm Ltd., Tata Teleservices Ltd., Bharti Cellular Ltd., Dishnet DSL Limited
Jammu & Kashmir	Bharti Cellular Ltd., Dishnet DSL Ltd.
North-East	Dishnet DSL Ltd.
Orissa	Bharti Cellular Ltd., Reliance Infocomm Ltd., Tata Teleservices Ltd., Dishnet DSL Ltd.

Source: DOT



### Growth Pattern of Internet Subscribers

Growth Trends- Subscribers Base



Growth Trends-Rate

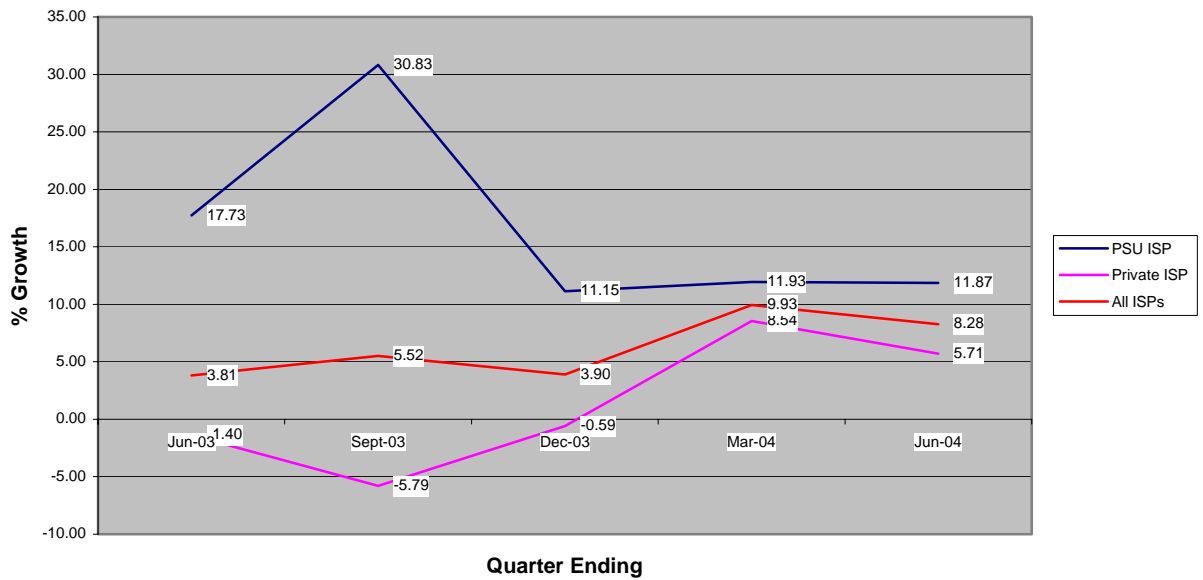
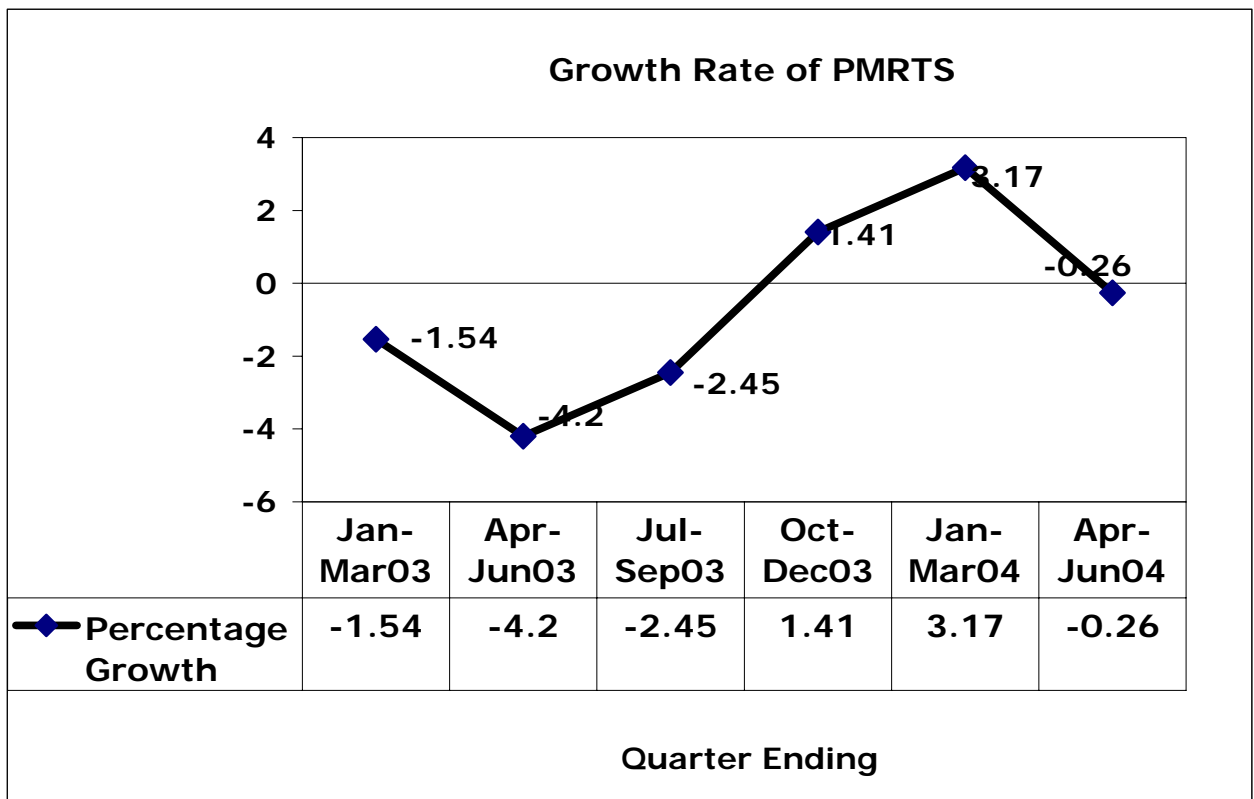


Table 3.2

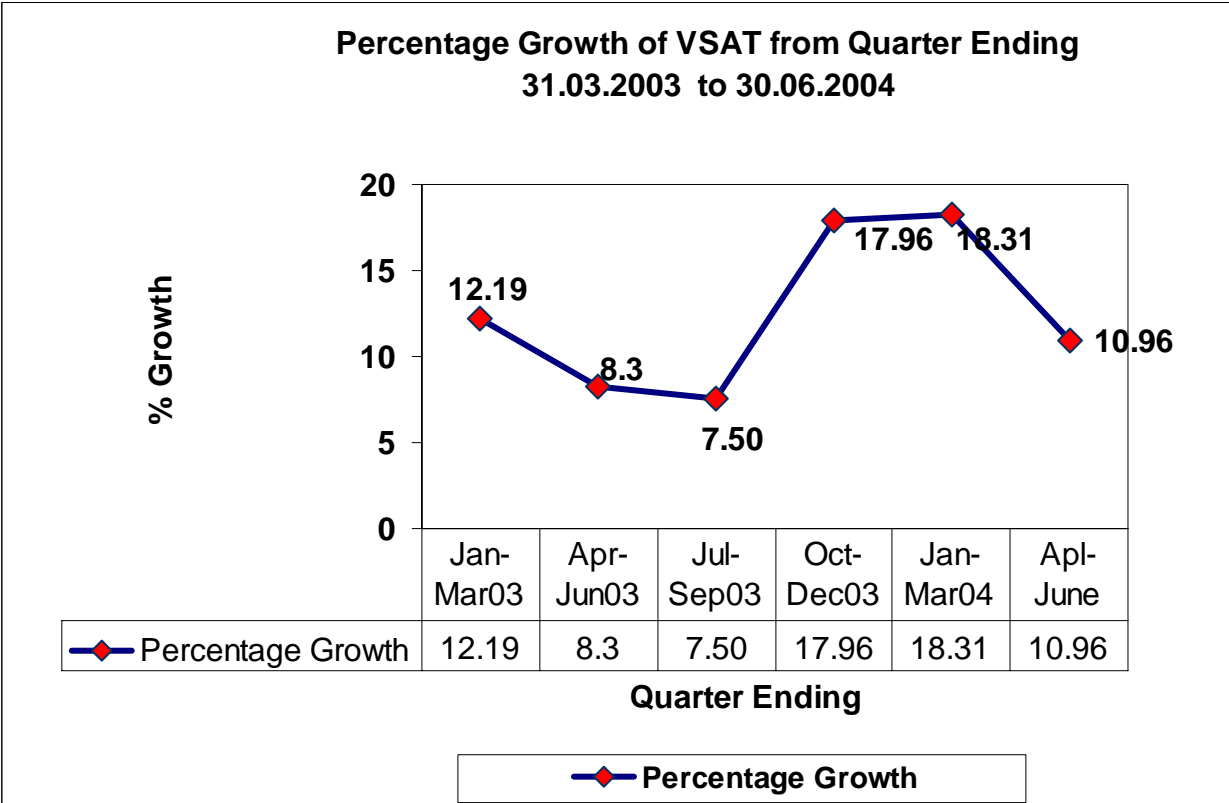
### List of Internet Telephony Subscribers

S.No.	Name of ISPs
1	Apna Telelink Pvt. Ltd.
2	Asianet Satellite Communications Ltd.
3	BG Broadband India Pvt. Ltd.
3	Bharti Broadband Network Ltd.
4	BSNL
5	City Online Services Pvt. Ltd.
6	Data Infosys Ltd.
7	Data Link Impex Pvt. Ltd.
8	Digital2Virtual SP Pvt. Ltd.
9	Dishnet DSL Ltd.
10	Estel Communications Pvt. Ltd.
11	Gateway Systems (I) pvt. Ltd.
12	Growth Compusoft Exports Ltd.
13	GTL Limited
14	Hathway Cable & Datacom Pvt. Ltd.
15	HCL Infinet Ltd.
16	Icenet.net Limited
17	In2Cable.Com(India) Ltd
18	iServe India Solutions Pvt. Ltd.
19	Jain Infonet Pvt. Ltd.
20	Karuturi Networks Ltd.
21	MTNL
22	Narmada Cyberzone Pvt. Ltd.
23	NetMagic Solutions(P) Ltd.
24	Nettlinx Ltd.
25	Online Media Solution Ltd.
26	Opto network Pvt. Ltd.
27	Ortel Communications Ltd.
28	PBC Venutres Ltd.
29	Primus Telecommunication India Ltd.
30	Rolta India Limited
31	SAB Infotech Pvt. Ltd.
32	Seven Star Dot Com
33	Sify Ltd.
34	Southern Online Services Ltd.
35	Surana Telecom Ltd.
36	Swiftmail Communications Ltd.
37	Trak Online Net India Pvt.Ltd
38	Trikon electronics Pvt. Ltd.
39	Value Healthcare Ltd.
40	VSNL
41	Wilnet Communications Pvt. Ltd.
42	World Phone Internet Services (P) Ltd.

Growth Rate of PMRTS subscribers



Growth Rate of VSAT Subscribers



## Quality of Service Performance 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				
S. No	Service Area	Service Providers			100% in < 7days	<3	>90% (Month-1)									>90% (Month-2)	>90% (Month-3)	<8 hrs between local exchange (2/1000)	>65%	<0.1%,
													< 3 days	< 24 hours	< 24hours	<1% (Month-1)	<1% (Month-2)	<1% (Month-3)		
1	ANDRA PRADESH	BSNL	65.78	7.42	92.50	89.52	86.80	12.00	NA	55.90%	0.05	86.77	86.54	61.88	NA	NA	11.6	14.10	14.5	
		RELIANCE	100.00	0.00	100.00	100.00	100.00	100.00	2.80	0.002	67.44%	0.07	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		TATA	93.30	2.04	96.17	98.28	83.15	83.15	9.20	0.001	78.48%	0.61	N/App	N/App	55.49	0.00	74.15	5.76	5.59	3.02
2	BIHAR	BSNL	38.33	7.27	86.12	88.95	90.23	12.00	NA	54.90%	0.02	81.74	85.88	44.18	NA	NA	2.42	2.40	2.34	
		RELIANCE	100.00	0.01	100.00	100.00	100.00	100.00	2.10	0.002	59.87%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
3	DELHI	MTNL	80.67	22.36	80.66	77.28	65.10	14.88	0.002	43.40%	0.14	80.91	77.61	74.23	99.74	91.56	11.9	11.59	11.4	
		RELIANCE	100.00	0.00	100.00	100.00	100.00	100.00	0.80	0.002	63.22%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		BHARTI	71.53	3.75	98.37	99.28	98.24	98.24	4.50	0.15	50.08%	0.06	55.03	63.00	20.35	74.00	91.66	8.66	9.44	8.25
		TATA	98.97	0.24	99.59	96.49	35.26	35.26	14.00	0.001	46.00%	0.50	N/App	N/App	80.00	11.06	52.76	0.00	0.00	0.00

4	GUJARAT	BSNL	76.24	9.82	96.15	95.04	96.48	9.00	NA	60.60%	0.07	87.16	85.09	85.80	NA	NA	5.69	5.97	3.51
		RELIANCE	100.00	0.00	100.00	100.00	100.00	2.60	0.002	64.98%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		TATA	87.68	0.54	99.67	99.22	99.13	2.10	0.0059	56.31%	0.51	100.00	100.00	53.82	100.00	88.16	0.00	0.00	0.00
5	MP & CHATTISGARH	BSNL(MP)	41.65	8.28	89.38	88.01	87.60	11.33	NA	67.70%	0.10	86.30	83.97	80.87	NA	NA	0.31	2.56	2.78
		BSNL(Chhattisgarh)	66.16	16.13	84.23	51.05	75.66	19.00	NA	60.80%	0.11	99.79	99.87	65.09	NA	NA	1.13	1.55	3.43
		RELIANCE	100.00	0.01	100.00	100.00	100.00	3.80	0.002	67.57%	0.08	N/App	N/App	100.00	NA	NA	0.00	0.00	0.00
		BHARTI	98.54	1.67	98.27	97.00	95.62	5.00	0.000	64.10%	0.06	93.72	N/App	56.29	100.00	94.89	2.73	1.93	1.89
6	MAHARASHTRA	BSNL	64.16	7.75	85.06	90.27	85.61	16.00	NA	58.80%	0.04	84.94	91.23	77.83	NA	NA	5.02	5.14	4.43
		RELIANCE	100.00	0.00	100.00	100.00	100.00	1.80	0.002	66.78%	0.06	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		TATA	91.81	5.03	100.00	100.00	99.01	3.00	0.001	61.05%	2.35	N/App	N/App	51.84	0.00	17.51	7.23	9.33	7.98
7	PUNJAB	BSNL	93.19	12.53	93.21	93.49	94.10	14.00	NA	65.50%	0.05	87.03	20.19	93.93	NA	NA	1.49	1.54	1.75
		RELIANCE	100.00	0.00	100.00	100.00	100.00	2.50	0.002	57.64%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		HFCL	95.90	7.11	94.15	88.74	65.41	9.74	0.000	74.69%	0.06	N/App	N/App	62.76	93.97	98.98	6.27	8.50	9.20
8	RAJASTHAN	BSNL	34.15	10.43	91.66	85.56	100.00	11.00	NA	60.50%	0.05	89.16	100.00	42.90	NA	NA	3.62	2.90	2.50
		RELIANCE	100.00	0.01	100.00	100.00	100.00	2.10	0.002	64.21%	0.08	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		SHYAM	100.00	3.71	94.90	96.58	99.80	5.20	0.001	66.00%	0.03	N/App	N/App	95.18	100.00	94.76	0.59	0.57	0.44
9	TAMILNADU	BSNL	70.53	5.93	96.57	96.27	96.54	8.00	NA	69.10%	0.03	99.00	98.88	80.16	NA	NA	0.17	1.64	0.99
		RELIANCE	100.00	0.00	100.00	100.00	100.00	0.60	0.002	65.71%	0.07	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		BHARTI	87.12	1.86	100.00	99.94	100.00	1.80	0.001	67.46%	0.26	100.00	100.00	49.89	100.00	37.31	0.98	2.04	2.12
		TATA	87.12	0.10	92.68	100.00	95.03	4.50	0.0018	64.69%	0.19	N/App	N/App	15.59	100.00	70.72	0.00	0.00	0.55
10	HARYANA	BSNL	64.45	8.88	92.58	93.26	93.40	13.67	NA	69.40%	0.06	54.49	78.37	39.86	NA	NA	3.70	3.75	3.89
		RELIANCE	100.00	0.01	100.00	100.00	100.00	2.60	0.002	57.02%	0.06	54.49	78.37	100.00	100.00	100.00	0.00	0.00	0.00
		BHARTI	91.58	3.27	99.70	99.34	98.75	5.80	0.100	47.43%	0.04	64.78	64.56	38.07	96.68	87.84	7.57	7.26	7.75
11	KARNATAKA	BSNL	69.52	7.42	95.09	94.60	95.67	3.00	NA	58.60%	0.06	94.95	96.96	69.91	NA	NA	6.23	6.92	7.54
		RELIANCE	100.00	0.00	100.00	100.00	100.00	1.60	0.002	69.52%	0.07	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		BHARTI	94.49	0.56	99.86	99.67	97.77	3.10	0.000	60.04%	0.25	Nil	40.37	21.52	10.05	89.99	4.27	6.22	5.09
		TATA	17.61	0.25	88.04	97.46	84.51	11.31	0.0003	57.51%	0.62	N/App	N/App	58.64	37.49	54.45	5.43	5.08	4.48

Operator not meeting prescribed benchmark

NA Not available

N/App = Not Applicable

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		
S. No	Service Area	Service Provider			100% in < 7days	<3	>90% (Month-1)					>90% (Month-2)	>90% (Month-3)				<8 hrs	a) Junction between local exchange (2/1000)	>65%
12	A&N	BSNL	80.35	14.91	91.42	89.69	94.13	13.00	NA	44.40%	0.08	90.91	74.96	100.00	NA	NA	1.86	2.32	2.89
13	Assam	BSNL	72.07	7.96	97.07	97.03	96.96	24.00	NA	72.70%	0.09	80.95	80.95	44.18	NA	NA	0.83	0.84	0.56
14	Chennai	BSNL	34.84	10.77	92.41	81.81	93.05	20.00	NA	74.80%	0.06	84.14	83.21	64.69	NA	NA	20.00	26.97	20.00
		Reliance	100.00	0.00	100.00	100.00	100.00	1.20	0.002	68.07%	0.08	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
		TATA	71.48	0.29	94.71	99.57	89.07	5.27	0.0002	65.42%	0.31	54.16	N/App	28.22	100.00	58.71	1.76	11.74	1.52
15	HP	BSNL	12.63	10.07	96.54	96.79	97.35	6.00	NA	63.50%	0.15	83.81	81.75	57.96	NA	NA	0.74	1.12	1.26
		RELIANCE	100.00	0.18	100.00	100.00	100.00	0.50		69.52%	0.00	N/App	N/App	100.00	Nil	100.00	0.00	0.00	0.00
16	Jhar khand	BSNL	17.57	8.70	82.98	75.21	90.45	17.00	NA	29.40%	0.09	94.95	96.96	5.54	NA	NA	1.20	1.22	1.54
17	J&K	BSNL	1.86	14.58	68.81	82.32	69.73	12.00	NA	46.20%	0.03	66.38	74.06	42.93	NA	NA	7.42	8.19	8.18
18	Kerala	BSNL	54.21	10.12	88.35	84.97	85.30	20.00	NA	65.80%	0.03	91.65	58.29	58.29	NA	NA	7.67	10.28	10.54
		RELIANCE	100.00	0.00	100.00	100.00	100.00	2.20	0.002	65.91%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
	Kolkata	RELIANCE	100.00	0.00	100.00	100.00	100.00	1.50	0.002	65.98%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00

19		<b>BSNL</b>	42.81	6.15	90.80	90.80	90.80	23.00	NA	48.10%	0.07	37.55	79.23	51.61	NA	NA	2.79	2.96	2.79
	<b>Mumbai</b>	<b>TATA</b>	NA	4.85	94.71	99.57	89.07	2.00	0.002	62.52%	7.55	N/App	N/App	62.89	0.00	73.83	1.76	11.74	1.52
		<b>RELIANCE</b>	100.00	0.00	100.00	100.00	100.00	2.80	0.002	66.64%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
20		<b>MTNL</b>	18.37	9.23	82.91	81.57	80.40	28.68	0.0007	52.10%	0.14	75.08	72.03	18.67	99.74	75.81	14.78	13.04	16.36
21	<b>NE-I</b>	<b>BSNL</b>	29.61	7.19	71.22	73.50	68.48	43.00	NA	40.50%	0.12	84.11	84.61	24.88	NA	NA	0.19	2.13	3.40
22	<b>NE-II</b>	<b>BSNL</b>	28.38	6.70	64.28	66.58	81.09	15.00	NA	34.00%	0.05	78.84	68.89	33.07	NA	NA	2.78	1.25	3.71
23	<b>Orissa</b>	<b>BSNL</b>	20.82	7.05	88.47	93.90	93.06	10.00	NA	62.30%	0.14	88.41	98.18	78.96	NA	NA	1.31	1.16	1.22
		<b>RELIANCE</b>	100.00	0.02	100.00	100.00	100.00	2.20	0.002	64.06%	0.08	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
24	<b>UP-E</b>	<b>BSNL</b>	38.79	8.26	88.00	86.00	89.00	8.00	NA	67.40%	0.01	75.17	94.15	34.22	NA	NA	1.10	1.20	0.93
		<b>RELIANCE</b>	100.00	0.00	100.00	100.00	100.00	1.50	0.002	58.15%	0.09	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
25	<b>UP-W</b>	<b>BSNL</b>	42.66	8.25	96.02	96.04	96.05	5.00	NA	67.70%	0.07	87.41	86.89	71.08	NA	NA	3.67	1.60	1.22
		<b>RELIANCE</b>	100.00	0.01	100.00	100.00	100.00	1.20	0.002	58.53%	0.08	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00
26	<b>Uttaranchal</b>	<b>BSNL</b>	46.95	9.00	92.05	93.44	98.06	6.00	NA	67.40%	0.01	75.17	94.15	34.22	NA	NA	1.43	0.93	0.90
27	<b>West Bengal</b>	<b>BSNL</b>	25.79	7.42	89.39	90.04	89.03	19.00	NA	70.90%	0.05	93.26	93.37	46.19	NA	NA	2.03	1.43	1.10
		<b>RELIANCE</b>	100.00	0.02	100.00	100.00	100.00	1.00	0.002	66.77%	0.08	N/App	N/App	100.00	100.00	100.00	0.00	0.00	0.00



## Quality of Service Performance for Cellular Services

Details QoS Parameters for Cellular Services as reported by CMSPs for the quarter ending 31st June 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/Month)	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	Period of all refunds/ payment due to customers from the date of resolution of complaints as in (ii) above
		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	1.44%	62.00%	58.37 hrs	99.33%	5 sec	1.27%	98.05%	0.100%	100.00%	30 Days
2	IDEA Cellular, MH	0.00%	100.00%	105.33 hrs	96.39%	13.55 sec	1.24%	98.15%	0.034%	100.00%	30 Days
3	Tata, MH	1.83%	99.04%	Nil	93.09%	18 sec	0.83%	97.39%	0.510%	93.00%	NA
4	BSNL, MH	1.90%	71.00%	77.3 hrs	85.60%	2.3 sec	2.20%	92.30%	1.600%	93.00%	4 Days
5	Bharti Cellular, MH & Goa	0.45%	100.00%	21.45 hrs	89.14%	9.31 sec	1.04%	94.58%	0.200%	100.00%	30 Days
6	Fascel - Hutch GJ	0.01%	100.00%	17.5 hrs	99.99%	10.9 sec	1.20%	96.60%	0.100%	100.00%	12 Days
7	Tata, GJ	1.67%	100.00%	36.42 hrs	98.27%	1.34 sec	0.72%	98.50%	1.820%	100.00%	30 Days
8	IDEA Cellular, GJ	0.01%	100.00%	2.8 hrs	99.00%	14.52 sec	1.06%	97.80%	0.650%	100.00%	30 Days
9	BSNL, GJ	1.60%	99.98%	Nil	99.56%	2.1 sec	1.20%	NA	0.090%	100.00%	30 Days

10	Bharti Cellular, GJ	0.11%	100.00%	20.82 hrs	99.55%	13 sec	1.12%	98.22%	0.040%	100.00%	14 Days
11	Tata, AP	1.63%	84.00%	1.32 hrs	99.42%	7 sec	1.33%	99.60%	0.510%	93.00%	NA
12	IDEA Cellular, AP	0.00%	100.00%	1.10 hrs	99.97%	9.59 sec	0.59%	97.71%	0.070%	100.00%	2 Days
13	Bharti Mobile, AP	0.01%	100.00%	12.41 hrs	98.67%	10 sec	1.34%	98.61%	0.040%	100.00%	30 Days
14	BSNL, AP	0.02%	97.33%	NIL	98.00%	6 sec	1.80%	99.00%	0.020%	97.00%	7 Days
15	Hutchison Essar, AP	1.00%	94.00%	24 hrs	90.10%	5 sec	1.02%	98.00%	2.130%	99.80%	30 Days
16	Bharti Mobile, KTK	0.07%	100.00%	23.5 hrs	99.05%	7 sec	1.98%	95.60%	0.005%	100.00%	30 Days
17	Spice Comm., KTK	0.18%	100.00%	2.3 hrs	99.71%	9 sec	1.54%	98.67%	0.040%	100.00%	7 Days
18	BSNL, KTK	0.80%	100.00%	8.4 hrs	90.50%	9 sec	1.30%	97.00%	3.100%	100.00%	7 Days
19	Hutchison Essar, KTK	0.50%	100.00%	25.76 hrs	97.80%	10.37 sec	1.12%	98.33%	0.050%	100.00%	2 Days
20	Tata, KTK	0.10%	95.00%	9.04 hrs	98.00%	15 sec	1.35%	96.00%	0.160%	95.00%	30 Days
21	Tata, TN	0.03%	90.00%	4.57 hrs	98.02%	1.26 sec	1.01%	92.20%	0.200%	100.00%	30 Days
22	BPL Cellular, TN	0.35%	100.00%	66.32 hrs	99.13%	9.77 sec	1.33%	99.56%	0.320%	100.00%	30 Days
23	Aircel, TN	0.00%	100.00%	14.30 hrs	99.20%	11.3 sec	1.71%	95.70%	0.090%	99.30%	24 Days
24	BSNL, TN	1.40%	99.10%	NIL	95.10%	9 sec	1.30%	93.60%	0.400%	100.00%	14 Days
25	Bharti Cellular, TN	0.47%	99.00%	4.8 hrs	93.00%	20 sec	3.23%	97.34%	0.300%	100.00%	2 Days
	<b>B' Circle</b>										
26	Escotel Mobile, KR	0.00%	100.00%	7.49 hrs	99.36%	1.92 sec	1.54%	97.29%	0.570%	100.00%	30 Days
27	BPL Cellular, KR	0.26%	100.00%	4.24 hrs	99.73%	12.3 sec	2.37%	96.83%	0.140%	100.00%	30 Days
28	BSNL, KR	1.80%	95.70%	199 hrs	87.40%	16 sec	1.80%	91.40%	1.600%	82.00%	30 Days
29	Bharti Cellular, KR	0.07%	100.00%	0 hrs	99.19%	20 sec	1.91%	98.59%	0.060%	100.00%	1 Day
30	Spice Comm., PB	0.49%	98.90%	41.66 hrs	99.20%	8 sec	1.12%	99.30%	0.016%	100.00%	30 Days
31	Bharti Mobile, PB	0.03%	100.00%	2.91 hrs	99.10%	9 sec	1.31%	99.70%	0.065%	100.00%	1 Day
32	BSNL, PB	0.00%	92.70%	207 hrs	97.40%	3.8 sec	0.80%	91.80%	6.700%	100.00%	30 Days
33	Escotel Mobile, HR	0.23%	100.00%	10.04 hrs	99.77%	14.91 sec	0.96%	99.22%	0.070%	100.00%	35 Days
34	Aircel Digilink, HR	0.01%	100.00%	20 hrs	99.85%	9 sec	1.90%	99.00%	0.100%	100.00%	24 Days
35	BSNL, HR	0.20%	99.19%	9 hrs	93.43%	5.61 sec	2.81%	97.16%	0.040%	100.00%	30 Days
36	Bharti Cellular, HR	0.10%	100.00%	2.08 hrs	99.40%	9 sec	1.37%	99.80%	0.067%	100.00%	1 Day

37	Escotel Mobile, UP(W)	0.07%	100.00%	8.93 hrs	99.51%	11.67 sec	1.52%	97.81%	0.670%	100.00%	30 Days
38	BSNL,UP(W)	0.90%	82.00%	NIL	100.00%	17 sec	2.90%	99.00%	0.260%	99.20%	NA
39	Bharti Cellular, UP(W)	0.28%	NA	13.67 hrs	99.15%	11 sec	2.28%	96.20%	0.086%	100.00%	30 Days
40	Aircel Digilink, UP(E)	0.79%	100.00%	Nil	99.98%	14 sec	2.20%	96.25%	0.045%	100.00%	18 Days
41	BSNL, UP(E)	1.30%	98.00%	3 hrs	94.50%	11 sec	4.20%	95.00%	0.100%	100.00%	30 Days
42	Aircel Diglink, RJ	0.11%	100.00%	14.40 hrs	100.00%	13 sec	1.77%	98.46%	0.080%	100.00%	7 Days
43	Hexacom, RJ	0.87%	54.13%	68.29 hrs	98.20%	5.45 sec	1.49%	91.70%	0.014%	100.00%	1 Day
44	BSNL, RJ	1.60%	92.40%	28 hrs	98.40%	5.4 sec	1.50%	92.00%	1.200%	99.70%	35 Days
45	IDEA Cellular, MP	0.18%	100.00%	9.8 hrs	99.20%	12.17 sec	0.91%	99.45%	0.190%	100.00%	30 Days
46	Reliance, MP	0.00%	98.00%	47.21 hrs	100.00%	8.91 sec	2.58%	95.31%	0.050%	100.00%	1 Day
47	BSNL, MP	1.20%	96.10%	NIL	94.70%	2.6 sec	1.20%	99.00%	0.100%	100.00%	30 Days
48	Bharti Cellular, MP & Chhatt.	0.10%	100.00%	2.28 hrs	99.70%	7.31 sec	0.96%	99.48%	0.094%	100.00%	30 Days
49	Reliance, WB	0.02%	100.00%	37.10 hrs	99.00%	9.52 sec	2.55%	98.30%	0.000%	NA	NA
50	BSNL, WB	0.60%	100.00%	NIL	98.60%	5.8 sec	2.70%	98.60%	0.000%	100.00%	NIL
	<b>C' Circle</b>										
51	Bharti Telenet, HP	0.06%	100.00%	3.08 hrs	99.08%	9 sec	1.36%	99.82%	0.060%	100.00%	1 Day
52	Reliance, HP	0.16%	100.00%	16.08 hrs	95.19%	7.48 sec	2.14%	99.07%	0.000%	100.00%	10 Days
53	BSNL, HP	1.20%	71.30%	NIL	90.40%	5.7 sec	3.40%	90.00%	1.200%	100.00%	NIL
54	Reliance, BR & Jharkhand	0.01%	100.00%	20.52 hrs	99.00%	8.51 sec	2.06%	99.30%	0.000%	100.00%	7 Days
55	BSNL, BR	0.10%	93.50%	10.5 hrs	97.20%	7 sec	3.00%	91.78%	0.200%	99.90%	21 Days
56	Reliance, ORISA	0.10%	100.00%	0 hrs	99.44%	8.38 sec	2.18%	98.50%	0.000%	100.00%	NA
57	BSNL, OR	0.20%	90.00%	103 hrs	90.00%	7 sec	2.50%	93.00%	0.730%	100.00%	Nil
58	Reliance, AS	0.02%	100.00%	0 hrs	99.00%	9.87 sec	1.18%	97.09%	0.020%	100.00%	NA
59	BSNL J&K	1.90%	99.50%	23.5 hrs	97.00%	11 sec	2.50%	98.00%	0.100%	100.00%	21 Days
60	Reliance, NE	0.00%	100.00%	0 hrs	99.00%	9.68 sec	1.14%	98.37%	0.003%	100.00%	5 days
	<b>METRO</b>										
61	Bharti Cellular, Delhi	0.32%	100.00%	Nil	99.21%	12 sec	1.89%	96.12%	0.058%	100.00%	30 Days

62	Hutchison Essar, Delhi	1.00%	100.00%	Nil	99.98%	10 sec	1.21%	95.62%	0.016%	100.00%	3 Days
63	MTNL, Delhi	0.21%	100.00%	Nil	98.89%	12 sec	1.06%	95.20%	0.096%	100.00%	30 Days
64	IDEA Cellular, Delhi	0.40%	100.00%	Nil	99.08%	7 sec	0.48%	97.13%	0.120%	100.00%	45 Days
65	Tata, Delhi	0.10%	84.00%	2.1 hrs	95.66%	13.1 sec	0.82%	NA	0.620%	100.00%	1 Day
66	BPL Mobile, Mumbai	0.29%	100.00%	10.24 hrs	99.34%	15.65 sec	1.63%	98.38%	0.100%	100.00%	40 Days
67	Hutchison Max, Mumbai	0.28%	100.00%	Nil	99.23%	9 sec	1.65%	98.04%	0.030%	100.00%	30 Days
68	MTNL, Mumbai	0.00%	100.00%	Nil	99.20%	12 sec	1.95%	96.00%	0.010%	100.00%	30 Days
69	Bharti Cellular, Mumbai	0.03%	97.14%	0 hrs	98.00%	13 sec	1.24%	99.72%	0.070%	100.00%	1 Day
70	Tata, Mumbai	1.75%	100.00%	1.8 hrs	95.85%	29 sec	0.97%	94.88%	3.120%	65.00%	NA
71	Aircel Cellular Ltd, Chennai	0.42%	100.00%	23 hrs	100.00%	12 sec	1.06%	95.10%	0.230%	100.00%	30 Days
72	Bharti Mbinet, Chennai	0.33%	95.37%	0 hrs	96.30%	17.41 sec	1.92%	97.74%	0.140%	100.00%	5 days
73	Hutchison Essar, Chennai	0.09%	100.00%	Nil	100.00%	560 sec	0.75%	98.30%	0.670%	100.00%	30 Days
74	Tata, Chennai	0.06%	91.00%	0 hrs	96.97%	1.28 sec	1.12%	92.45%	0.240%	100.00%	30 Days
75	Bharti Mobinet, Kolkata	1.54%	100.00%	0 hrs	99.61%	15.3 sec	1.26%	98.77%	0.610%	100.00%	30 Days
76	Hutchison, Kolkata	0.04%	100.00%	Nil	99.76%	17 sec	1.00%	96.15%	0.110%	100.00%	30 Days
77	BSNL, Kolkata	3.90%	73.70%	NIL	98.00%	7 sec	2.00%	98.00%	1.500%	100.00%	30 Days
78	BSNL, Chennai	0.78%	100.00%	NIL	98.70%	12 sec	1.20%	100.00%	0.600%	100.00%	7 Days

NA = *Not Available*,

Operators not meeting the Benchmark

## Annex 5.3

### Quality of Service Performance for ISPs

S. No.	Name of the Service Provider	Service Activation time	Time to Access	Access Portability in 1 <sup>st</sup> attempt (in %)	Access Portability in 2 <sup>nd</sup> attempt (in %)	Access Portability in 3 <sup>rd</sup> attempt (in %)	ISP Node unavailability	Grade of Service (QoS)	Mean time to Restore of faults resulting as per subscriber complaints	
<b>S</b>	<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>1 : 100</b>	<b>3 days</b>	
1	Bharat Sanchar Nigam Ltd.	0-2 hrs	15-30 sec	92	98	100	Nil	1:100	0-4 hrs	
2	VSNL	2-4 hrs	30 sec	80	90	99	Nil	Not provided by BSO	10-15 min	
3	MTNL	Delhi	Instant Online	30 sec	99.67	99.99	Nil	-	0.01	5 min
		Mumbai	Immediate	26 sec	100	-	-	-	1 in 200	15 min
4	Sify Ltd.	3 min	30 sec	90	95	99	20 min	0.005	4 hrs	
5	Reliance Communications Infrastructure Ltd.	Online	<28 sec	96	100	-	Nil	Not provided by BSO	Within 3 days	
6	Data Infosys	3-5 min	25-30 sec	90	95	99	30 min	1:100	15 min	
7	Tata Internet Services Ltd.	<5 min	30 sec	90	95	99	0.01%	100 users for 1 PSTN port	40 min	
8	Bharti Infotel Ltd.	Online	30-35 sec	98.5	99	100	15 min	1:100	2 hrs	
9	HCL Infinet Ltd.	3 min	30 sec	99	99.2	99.5	18 min	1:200	16-18 hrs	
10	Sab Infotech	<6 hrs	<30 sec	90	95	100	<30 min	0 in 100	>1 Hr	
11	Icenet.net Limited	2 hr	20 sec	85	95	100	Never	1:100	-	
12	Shyam Internet Services Pvt. Ltd.	30 min	30 sec	98	99	100	30 min	1%	2 hrs	
13	Trak Online Net India Pvt. Ltd.	5½ hrs	31 sec	83	97	100	Nil	0.03	1-2 hrs	
14	Hathway Cable & Datacom Pvt. Ltd.*	-	-	-	-	-	-	-	-	
15	Tata Teleservices (Maharashtra) Ltd. (Hughes Telecom)	0 sec	25 sec	98.1	100	N.A.	Nil	1:1000	1 hr	
16	Data Access Pvt. Ltd.	Online	30 sec	98	99	99.5	Nil	No blocked calls	-	
17	Fascel Ltd. *	-	-	-	-	-	-	-	-	
18	WWW Communications Ltd.	4-5 min	20-35 sec	85	96	99	30 min	-	10-15 min	
19	Rolta India Ltd.	15 min	28 sec	83.7	90.3	99	Nil	0 in 100	3.40 min	
20	HFCL Infotel Ltd.	2 min	30 sec	98.20	99.20	100	Nil	0.85 in 100	10.27 min	

\*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.

Quarterly Growth rate of Cellular Subscribers

