# Telecommunications Statistical Review

# 2008

## Introduction

In common with regulatory authorities in other jurisdictions the JCRA monitors usage and developments in telecommunications within its jurisdiction.

Telecommunications services are provided by a number of operators in Jersey for fixed, mobile and broadband services. This paper will summarize the data available to the JCRA regarding consumer usage patterns of telecommunications services.

## Overall Internet Usage

During 2008 the number of fixed line ISP and Internet access accounts among all operators in Jersey grew by less than 3% overall. This was much lower than in previous years and perhaps indicates a levelling off of demand or saturation of the available market. See Figure 1. This is despite aggressive marketing of ADSL services during the year by both providers.

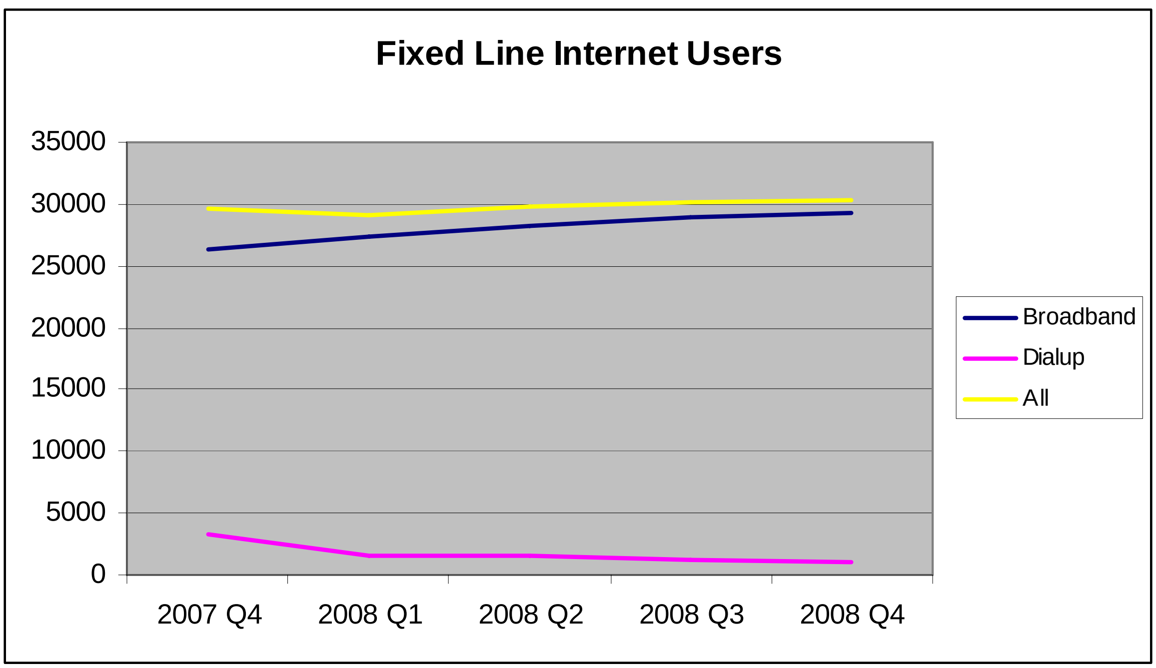



**Fig 1**

Dial-up accounts have declined by 65% during the year continuing the recent trend. There is, however, some uncertainty of the true numbers of dialup users because of the method of calculating numbers adopted by providers. In addition there are users who also use off-island providers and these accounts cannot be accurately calculated. Nevertheless, from the available data, remaining dialup users continue to use almost 7 hours of internet access per week on average.

Figure 2 below shows the rise and fall in use of dialup Internet access over the past 9 years.

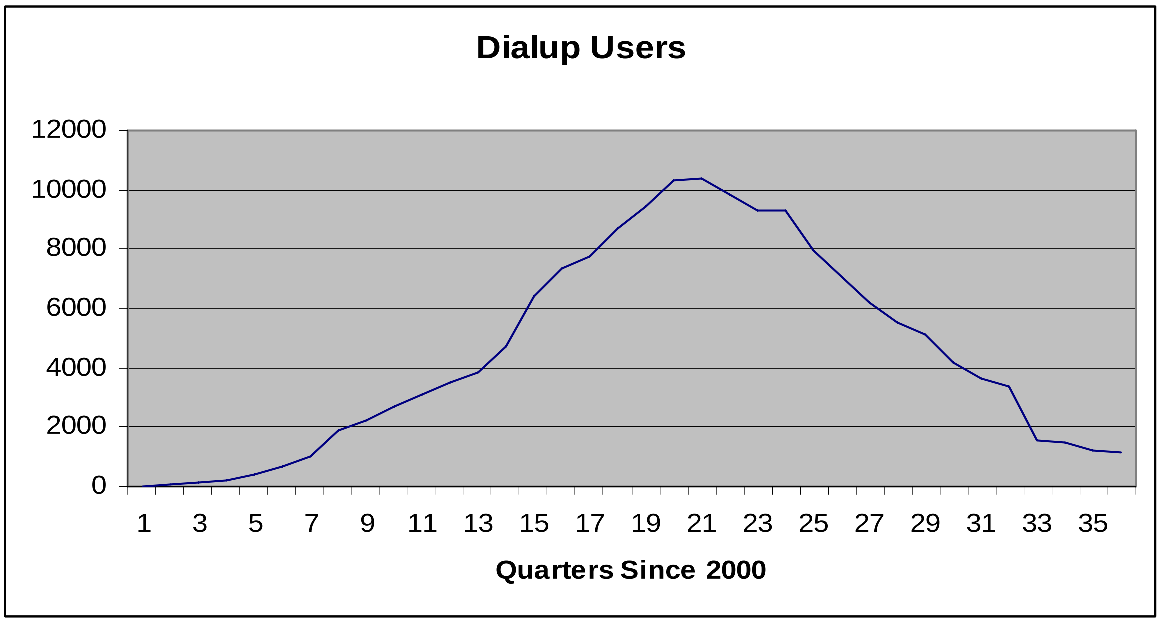



**Fig 2**

The peak of users was at the end of 2004 with almost 10,500 user accounts recorded over a number of ISPs. At that date the number of broadband and dialup accounts was almost equal. Since then broadband has grown steadily with dialup falling away at about the same rate although the overall number of Internet fixed line user accounts has itself grown by a further 50% in that period.

Dialup is now very much a legacy technology but continues among a small number of users.

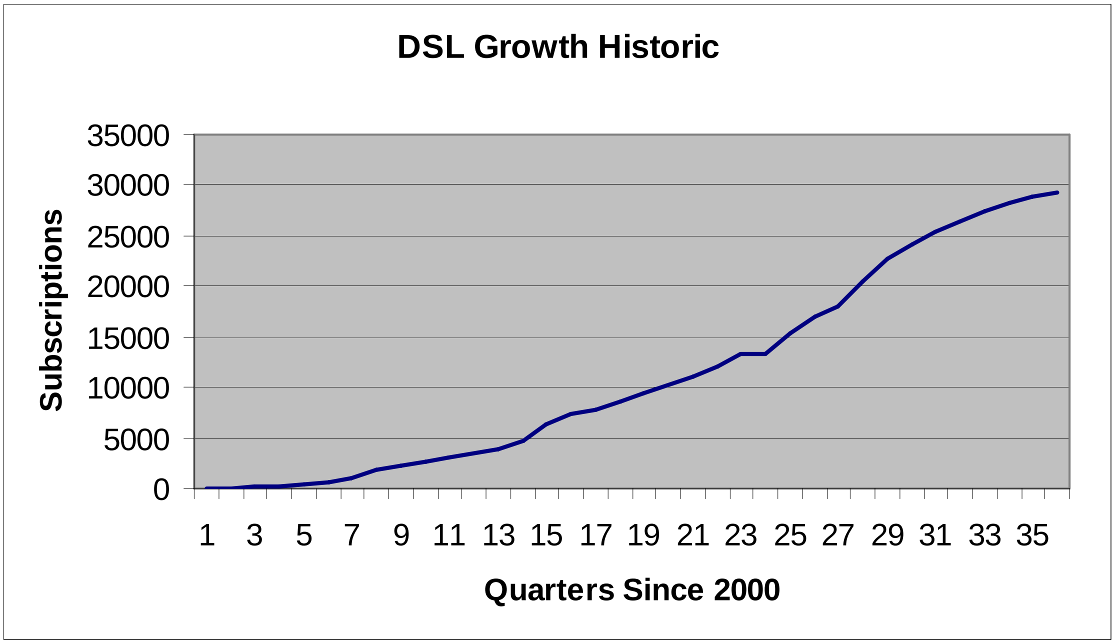



**Fig 3**

Figure 3 shows the historic trend for DSL growth showing broadband take up for all classes of DSL. As can be seen in the graph, after steady growth over many years there now appears to be a levelling off.

## *Broadband Services*

### Fixed Line Broadband

Broadband in Jersey is currently offered at only one basic rate at 2Mb/s download 378kb/s upload. There are different contention ratios offered: basic (50:1) and premium (20:1) and also a symmetric DSL (10:1) service. At the end of 2008 Jersey Telecom announced a trial of 8Mb/s for both retail and wholesale users. At the time of this report no further information is available.

The contention ratio expresses the number of other users sharing the availability of the maximum bandwidth at any given time. The worst case is that downloaded data will be reduced by the bitrate/contention ratio, for example 2Mb/s / 20 = 100kb/s. In practice, the traffic variations on any given DSLAM will rarely reach this base level unless the concurrent users are very high consumers of information download. This can occur if some users configure their connection to use as Peer to Peer networks or connect to streaming video or audio services such as BBC iPlayer. Management of users over the available DSLAMs can mitigate this problem. In addition, JT now meters download and makes additional charges after a fixed monthly limit of 20Gb is exceeded. Newtel does not meter or apply limits.

While the headline speed for all DSL services is 2Mb/s actual data rates experienced by users will depend on a number of factors including the prevailing contention, distance from the DSLAM and quality of the network cabling in the user's area or home.

Total DSL services in operation at the end of 2008 were 29,258 of which 27,487 were basic rate residential users, 1,569 premium and 141 SDSL subscriptions. Two failures affecting consumer service for more than 6 hours were reported during 2008.

## Mobile Broadband

During 2008 two mobile operators, Airtel-Vodafone and Sure, began offering USB "dongles" for access to 3G HSDPA broadband at rates up to 1.8Mb/s. The actual rate is dependent on cell usage and relative distance from the cell transmitter. At the end of 2008 there were 2,185 dongles in use across the mobile networks. Recent developments in the local market includes the introduction of Pay-As-You-Go mobile broadband and the provision of wireless 3G routers, enabling wireless broadband sharing.

## *Internet Penetration*

Overall penetration of Internet usage is sometimes interpreted as the number of ISP registered accounts as a percentage of the population, and sometimes as a percentage of the number of households in the jurisdiction. According to the States of Jersey Statistics Unit Update 2007[1] there are 37,600 households in the Island and an estimated population of 90,100. The JCRA estimates 30,378 registered fixed line ISP accounts (including dialup) at the end of 2008, an increase of 688 on 2007. This would represent a penetration of about 81% which is above the UK at 65%[2]. From this data the penetration of fixed line internet has dropped slightly from 2007, but this is largely as a result of a correction in the number of households using more recent data, and the rationalization of ISP dialup data. Fixed line broadband penetration as a percentage of households is 78%, somewhat above the UK fixed broadband penetration of 56%[3]. This is an increase of 12% over 2007. The number of fixed broadband accounts per 100 population is 34.6.

However, as noted above, taking into account the use of mobile broadband access then the total number of broadband connections increases the number of broadband connections to 31,441. This produces in a headline broadband penetration figure of 84%, however, this is not a statistically reliable result since many IT professionals and other IT aware users may well have both fixed and mobile options.

[1] States of Jersey Statistics Unit Population Update 2007 http://www.gov.je/NR/rdonlyres/7571029D-45BF-4122-B6C2-14A4586898F6/0/2007populationupdate.pdf
[2] National Statistics http://www.statistics.gov.uk
[3] ibid

It would appear from that information that the overall penetration of access is well above the 2008 EU(25)[4] average of 59%, but below the highest of 88% (Netherlands).

Overall market share of all types of Internet access by operator is shown in Figure 4 based on number of subscribers to each service. A total 32,561 subscriptions across all types of service.

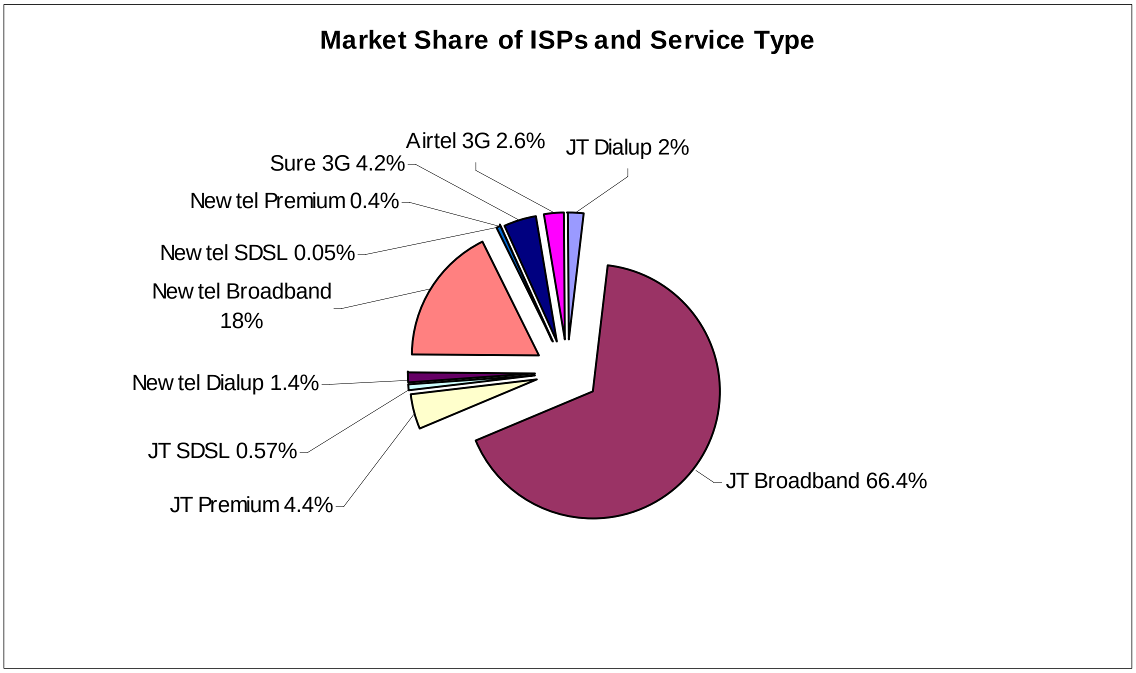



**Fig 4**

Note that the data in Figure 4 does not include off-island ISP's for which data is not available.

## *Mobile Internet Access*

Mobile 2G GPRS EDGE and 3G HSDPA services are available from all the operators on Jersey. Airtel-Vodafone and Sure both offer a stand-alone USB 3G modem for use with notebook computers for consumers on the move. In addition Airtel-Vodafone now offers a wireless router solution. As noted above, 3G broadband has become popular over the last 12 months with more than 2000 users.

Popularity of Internet on the move has increased markedly across many jurisdictions[5] recently and Jersey is no exception. Inclusive usage packages offered on mobile subscription plans may be a contributory factor. Care should be taken when using Internet

[4] Source: EU http://epp.eurostat.ec.europa.eu and OECD http://www.oecd.org
[5] State of the Mobile Web, November 2008 http://www.opera.com/media/smw/2008/pdf/smw112008.pdf

while roaming, however, as this can prove to be extremely expensive. If mobile Internet is required abroad, users are advised to purchase a SIM or USB option in their destination country.

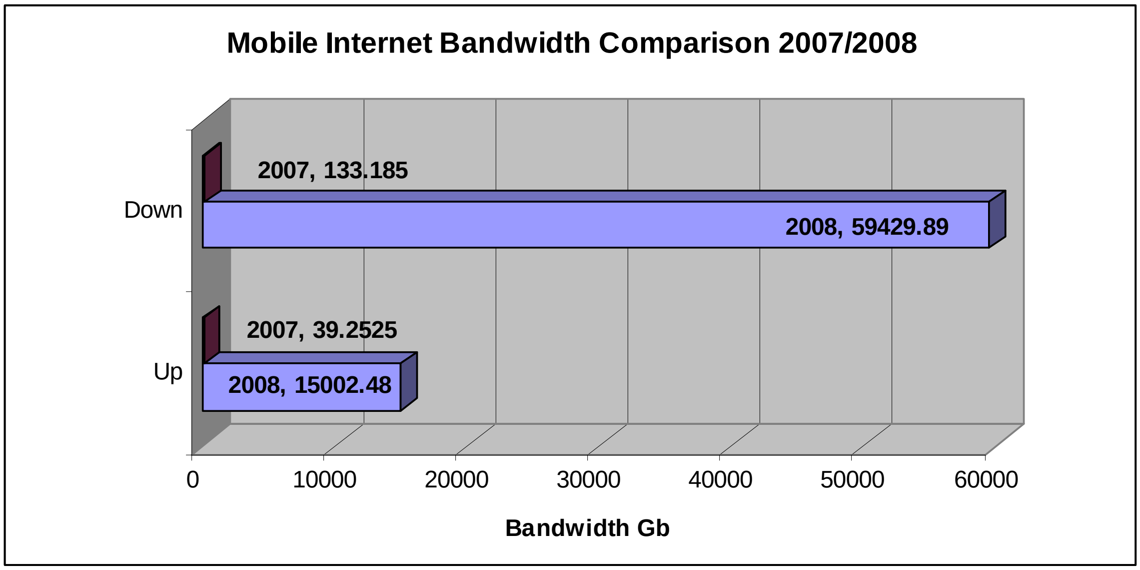



**Fig 5**

Figure 5 shows the average bandwidth usage of the mobile operator's GPRS and 3G HSDPA bandwidth usage during 2007. There is an obvious and massive increase in mobile Internet usage over the last 12 months, indicating, perhaps, a willingness among consumers to use more mobile services. It is also possible that much of this additional usage has been as a result of the uptake of USB dongles. Currently there is no data available on the type of content accessed by mobile users.

## *Pricing of Internet Access*

In Jersey there are a number of payment schemes available for Internet access, depending on the ISP and/or the method of connecting.

For dialup customers there is a choice of connecting either through a pay-as-you-go (PAYG) service accessed via an 0845 number, or by monthly subscription. The monthly subscription ISP services provide the user with more facilities than the PAYG service but access is through a normal directory number, which is billed at the standard rate.

ADSL services are provided by two island operators for a fixed monthly fee, with no addition call charges but a fixed line connection is required at additional rental.

Dialup customers have a choice of provider either on or off the island, for instance AOL which provides an 0800 access service with a monthly limit on free minutes. The remaining dialup customers spend more time per day online than previously recorded.

Current data indicates that the average dialup user now spends almost an hour online per day which would cost from nothing (for 0800 – although AOL applies a monthly limit on free time) to 14p per day for standard directory number access and up to £1.20 for JT's standard line rental PAYG users.

It would appear that if a user only requires email access, then a dialup PAYG service would be the best option. However, if Internet surfing is required then clearly broadband is the best option unless consumers select a pre-payment package for Internet access with their fixed line rental and are prepared to accept a slower download service. Users can then select the best offer from the available suppliers.

Monthly pricing for ADSL is £17.50 (inc GST) from Newtel and £18.53 (inc GST) from JT for a 2Mb/s service at 50:1 contention. In addition it is necessary to have a standard telephone line which is currently priced at £12.36/month inclusive of GST.

SDSL is currently about £229.00/month at 5:1 contention.

## *Comparison with Other Jurisdictions*

Prices across the entire EU have been largely stable over the last 12 months following dramatic reductions the previous year, but download speeds have continued to improve and many ISPs now offer VoIP services at the same price. Table 1 below gives a sample of prices in Euros per month and download bandwidth in different jurisdictions. It should be noted that direct comparison is difficult because of the mix of speed, contention ratios and services offered by each supplier. The table make comparisons with popular offerings among a range of EU countries. £/€ exchange = 1.10.

| Jurisdiction | Provider | Download BW | Price € | Notes |
|---|---|---|---|---|
| France | free | 28Mb/s | 29.99 | Burstable * ‡ |
| Netherlands | Orange | 20Mb/s | 19.95 | Includes VoIP* + |
| Belgium | Scarlet | 6Mb/s | 25.00 | Burstable † 30gb/mth limit |
| Liechtenstein | Telecom FL | 5Mb/s | 49.00 | Unlimited download |
| UK | Be | 8Mb/s | 14.85 | Burstable † |
| UK (Hull) | Karoo | 18Mb/s | 18.30 | 10G/mth limit † |
| Jersey | JT | 2Mb/s | 20.00 | 20Gb/mth limit |
| Jersey | Newtel | 2Mb/s | 18.90 | Unlimited |
| Guernsey | Cable and Wireless | 2Mb/s | 16.50 | Pay-as-you-go 300 min/mth free then 3p/min** |
| Guernsey | Cable and Wireless | 2Mb/s | 27.50 | Unlimited download** |
| IOM | Manxnet | 8Mb/s | 20.40 | 10Gb/mth/limit |

**Table 1**

* Free national calls included in package and reduced international call rates
** 40:1 contention
+ Tariff includes exchange line rental
† The maximum rate depends on prevailing contention
‡ Includes access to 200 TV channels

This comparison shows that ADSL residential prices in Jersey are in the middle bracket of EU comparative costs although just below the mean price - see Figure 6. All providers except those in Jersey offer higher rate basic services either as a standard offer or in some cases as a premium product. However, many EU ADSL providers also include voice telephony packages (VoIP) in base price and where it is not, prices are substantially lower. JT does not offer either email or webspace in its offer, unlike all the other providers.

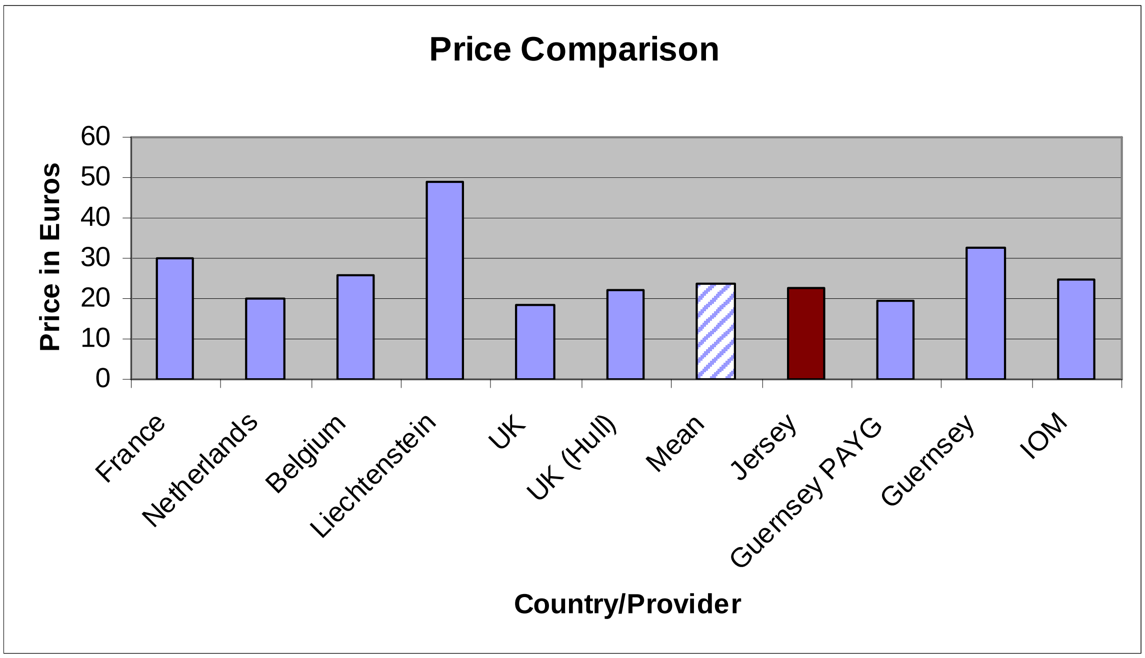



**Fig. 6**

## Wi-Fi Internet Access

Free Wi-Fi is available from a number of sources in Jersey. Jersey Telecom provides free access at the harbour, airport, the public library and a number of other public places. In addition many cafés and public houses also offer free access. There are also commercial Internet cafés that make a charge for access. The backhaul for these services is over standard DSL services and thus will be included in the above data.

## Mobile Telephony

There are three mobile networks in Jersey:

- Airtel Vodafone (Jersey Airtel)
- JT-Wave (Jersey Telecom)
- Sure (Cable & Wireless)

Each provider has both 2G (900MHz & 1800MHz) and 3G services provisioned on its network. All network providers provide data services using variously Enhanced Data rates for GSM Evolution (EDGE) and High-Speed Downlink Packet Access (HSDPA).

There are approximately 180,000 issued SIMs in circulation on the island networks. The island population is estimated at about 90,100[6] which results in a mobile penetration of 200%. The island is known for its itinerant population and therefore it follows that there are high numbers of pay-as-you-go mobile consumers. Therefore it is likely that a fair proportion of the issued SIMs are unused for part or most of their lifecycle. Some operators are now quarantining SIMs that are inactive for around 60 days thus removing them from their accounting unless reactivated. The JCRA will attempt to reflect this data in future.

The lifecycle is the time allowed by mobile operators that a SIM remains active. Once it has exceeded its lifecycle period without re-registering on a mobile network, then it is disabled. The lifecycle varies per operator:

- Airtel Vodafone 600 days
- Cable & Wireless (Sure) 12 months
- Jersey Telecom 18 months

It therefore follows that the numbers of issued SIMs does not correlate directly to active mobile users. Nevertheless, some consumers do own more than one phone and/or SIM, depending on their own calling patterns since different networks offer differing call charges by destination. Consumers of pre-pay SIMs are also willing to buy special offers in order to gain additional minutes offered by competing operators.

The number of SIMs in operation has grown steadily since the introduction of GSM and has shown a marked upward surge since the introduction of competition in 2006 as shown in Figure 7.

[6] States of Jersey Statistics Unit Population Update 2007 http://www.gov.je/NR/rdonlyres/7571029D-45BF-4122-B6C2-14A4586898F6/0/2007populationupdate.pdf

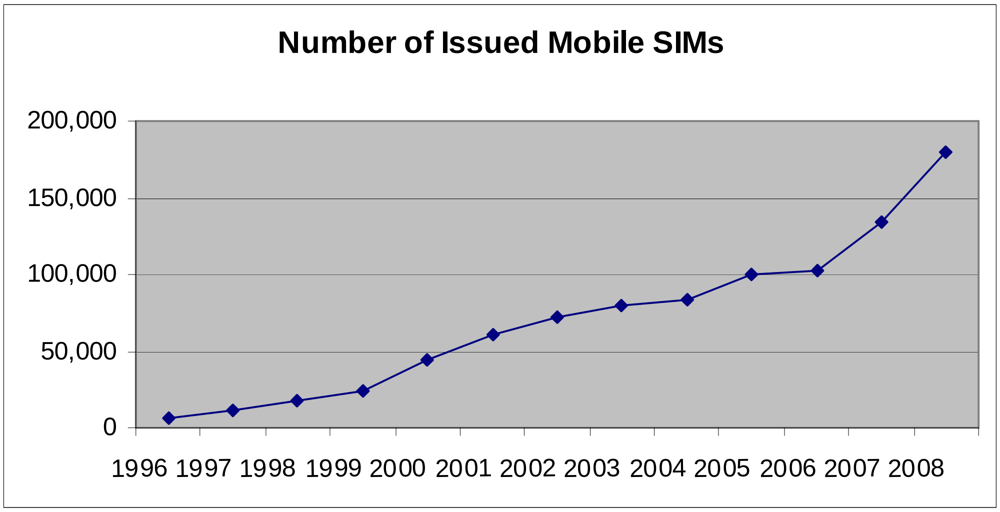



**Fig. 7**

The distribution of issued SIMs is shown in Figure 8.

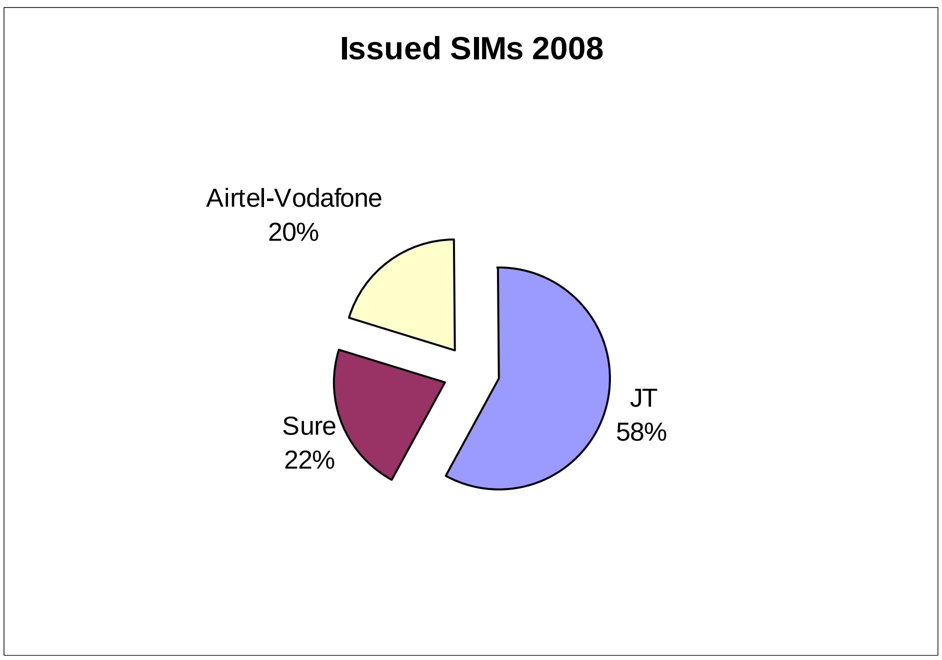



**Fig. 8**

## *Call Data*

There has been approximately 9.5% growth in the overall number of call minutes originated by mobile consumers in 2008 compared to 2007 as is shown in Figure 9.

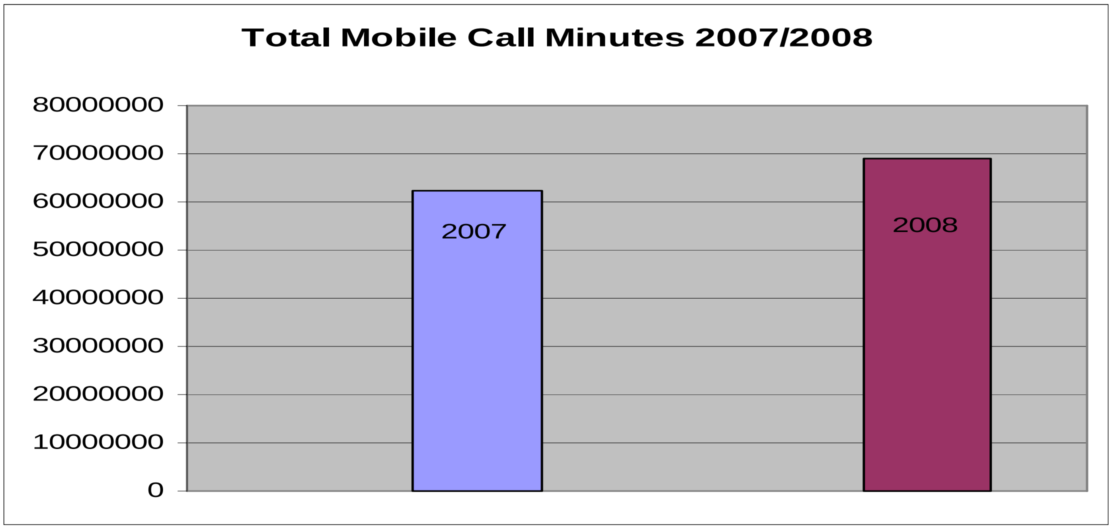
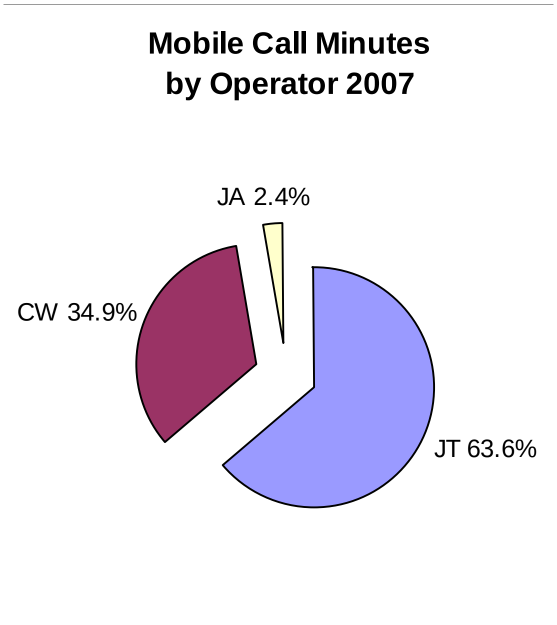



**Fig. 9**

The distribution of total call minutes by operator is shown in Figure 10.



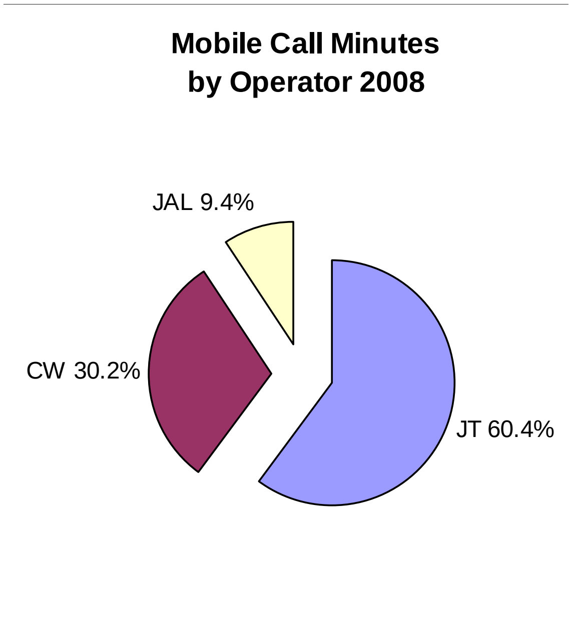




**Fig. 10**

The distribution by destination of mobile originated calls is shown in Figure 11. Note that in 2007 National mobile traffic was not separately reported and the figure for 2008 is partially estimated.

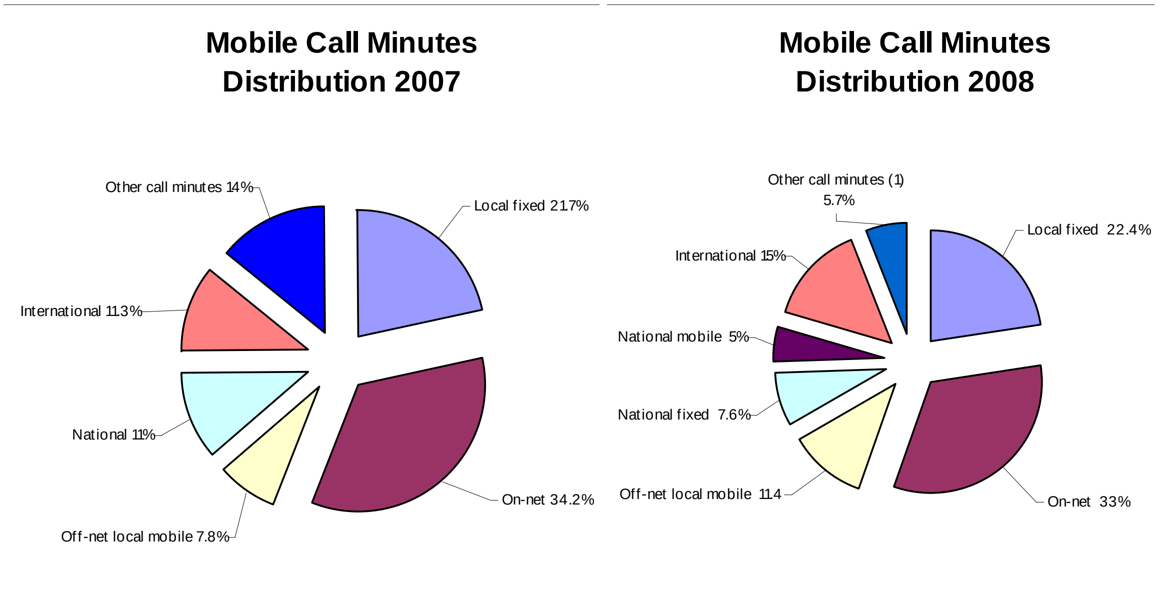



**Fig. 11**

## *SMS*

SMS messages are measured by own network messages or messages to other networks. No data was collected for 2007 and no distinction is made on off-net messages to networks outside Jersey. The distribution for the current year is shown in Figure 12.

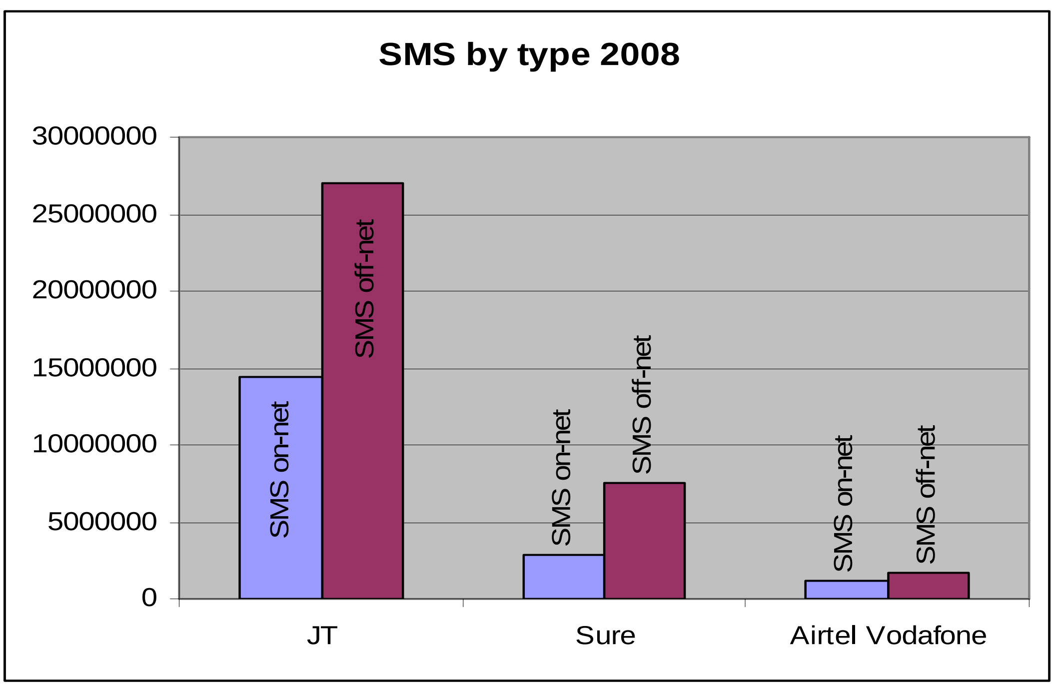



**Fig. 12**

## *Number Portability*

Number Portability was introduced onto Jersey's mobile networks on 1 December 2008. Although this service has only been in operation for 2 months, at the time of publication 933 ports had been completed. The proportion of Out Ports (that is the quantity of consumers who choose to move their number from the number range host network) is shown in Figure 13

MNP in Jersey is provided by a third party supplier (Porting XS) using a centralized database (CDB) solution. Ported numbers are managed by each operator through a browser interface and routing data is broadcast to each operator on a regular basis. Call routing is completed using an all call query (ACQ) methodology on each network.

Operator number blocks for Jersey are allocated as follows:

| | |
|---|---|
| Airtel Vodafone | 07829 |
| Sure | 07700 |
| Jersey Telecom | 07797 |

Using MNP originating number block holders are responsible for rerouting calls arriving on their own network to the new destination network. MNP is provided free of charge to consumers in Jersey.

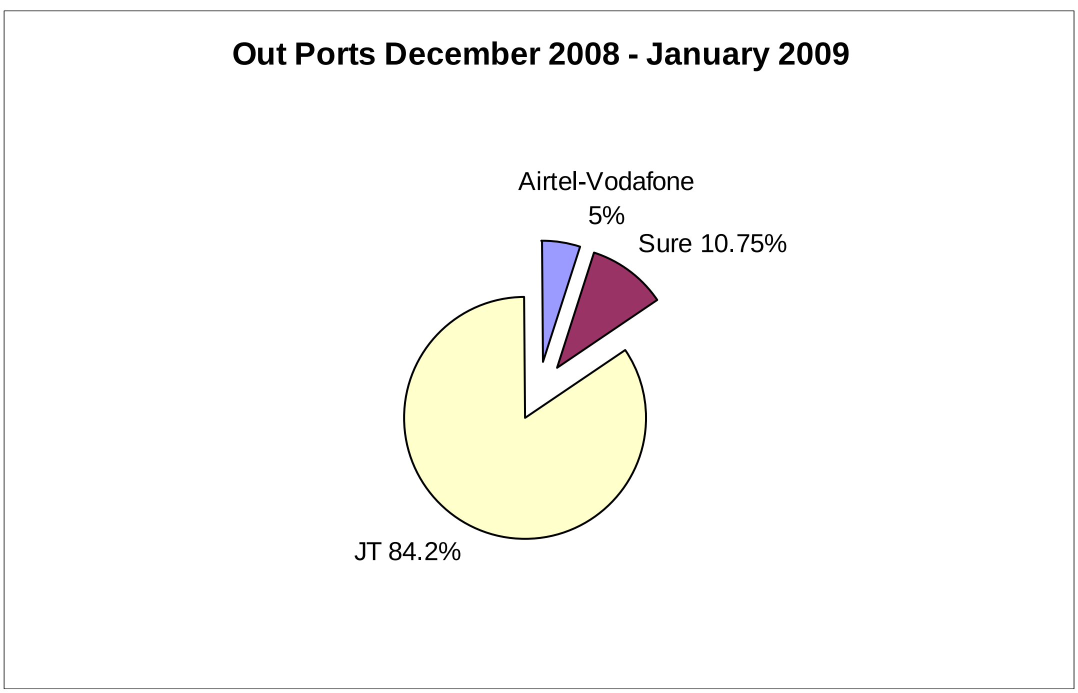



**Fig. 13**

## Fixed Telephony

At present only Jersey Telecom, the former monopoly provider of telecommunications services on the island, is able to provide fixed line connections. However, alternative access options are available using Carrier Select (dialling a code before the E.164 number) or using bypass directory or special service numbers such as 08XX.

Sure (Cable & Wireless Jersey) is currently the only provider of Carrier Select services in Jersey while Newtel currently uses a bypass number access regime. In addition, SpeedDial is a reseller of bypass access and other off-island providers offer similar services that can be accessed from Jersey.

In order to avail of any of the above services from a fixed line telephone it is therefore necessary to subscribe to the JT fixed line service marketed as WireLine. In 2008 line rental was rationalized and some legacy products removed from the portfolio. A standard line is now £12.00 per month (£12.36 including GST) and this price, while being subject to a regulatory price cap mechanism, tends to be increased annually in July following the Jersey retail price index. There is only one flat line rental tariff, there being no differentiation between residential and business consumers. JT also offers a discounted line rental and call tariff for senior citizens, subject to a reasonable use policy.

JT's standard calling rate for local to local fixed line calls is currently set at 7p for 30 minutes or any part thereof. After the fixed period, calls are charged by the second *pro rata*.

The majority of consumers are tied to this rate but subscribers to bypass services can call local numbers for 0.21p per minute with a minimum charge of 5p per call. The average call is somewhat shorter than the maximum time allowed by JT. The average call holding time in Jersey is approximately 3 minutes.

Operators also offer various discount packages along with the access services that attract different rates of discount depending on traffic volumes. This is of particular interest to business users as discount rates can become very attractive as calling rates rise. Bundles are also available for residential consumers in addition to standard line rental.

### VOIP

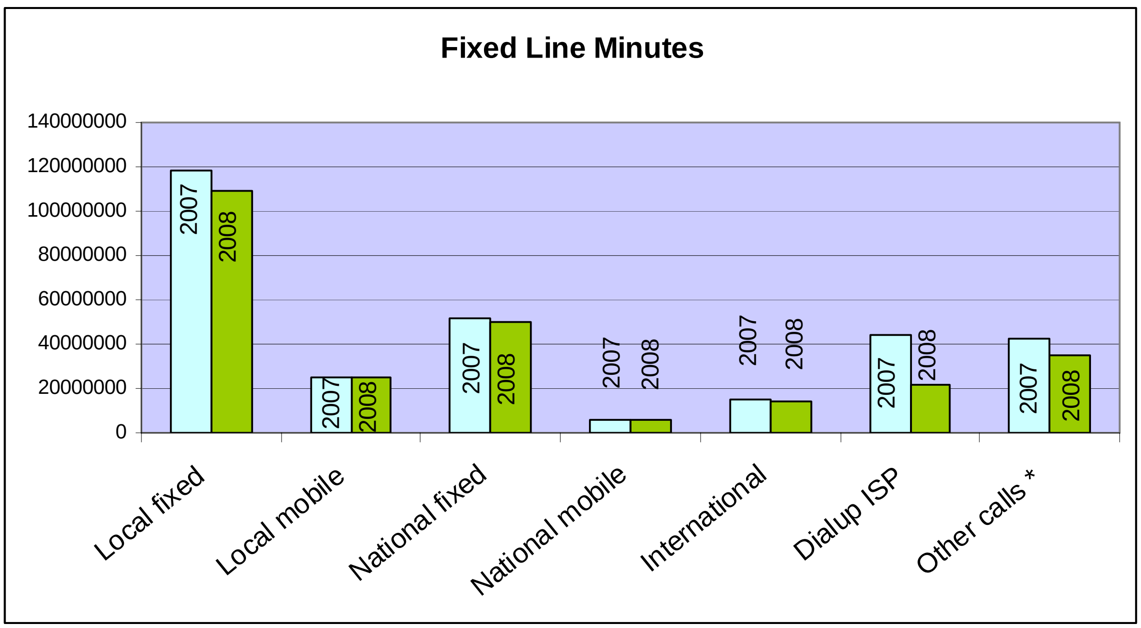
Voice Over Internet Protocol (VOIP) services are also available from Jersey, either through local or off-island suppliers (e.g. Skype who offer national calls at 1ppm). In order to use a VOIP service it is necessary to have a broadband connection, which in turn requires a fixed line service. The Newtel offer has a headline rate of 2ppm for all local and national fixed line calls regardless of time-of-day. In addition pre-paid minutes packages are offered.

No statistical data is available from off island VOIP providers, however the minutes sold by Newtel are included in the fixed call data in Figure 9.

## *Call Statistics*

Jersey Telecom is the only provider of fixed lines in Jersey. Currently there is no local loop unbundling (LLU) or wholesale line rental (WLR) options available to OLOs.

JT does not itself provide broadband telephony options but these services are offered by other providers. In the last few years there has been a trend away from Fax towards email or other electronic messaging as a means of transmitting documented data and this is reflected in not only the number of fixed lines but also in the call minutes used by consumers.

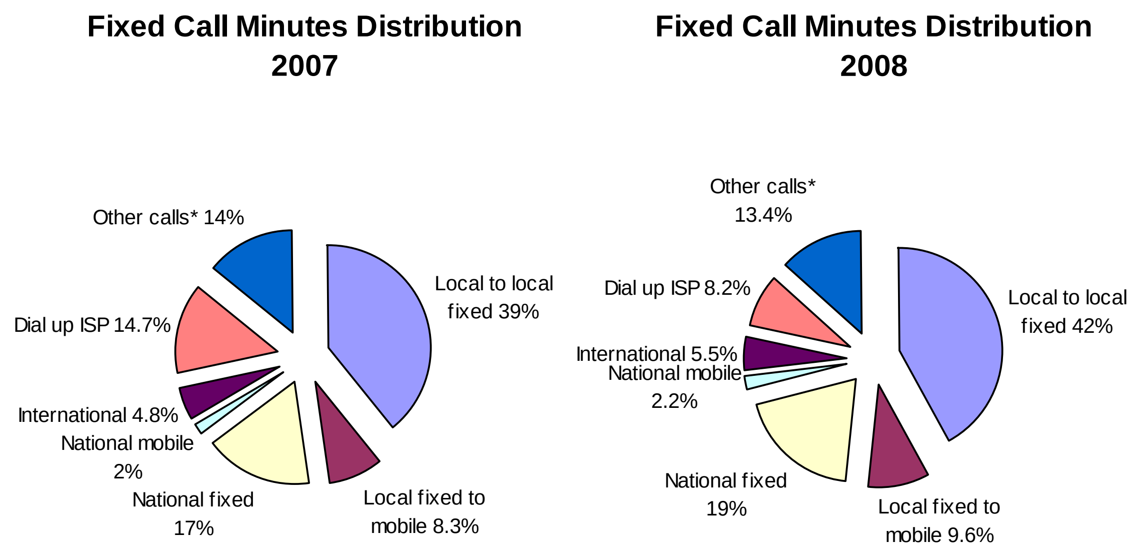



* Other call minutes include Freephone, Premium and special numbers (087x, 084x etc)

**Fig 14**

The graph in Figure 14 does not include any VOIP calls made by operators not licensed by the JCRA.

Comparison of 2007 and 2008 by call type is shown in Figure 15




* Other call minutes include Freephone, Premium and special numbers (087x, 084x etc)

**Fig 15**

Fixed line call distribution by provider is shown in Figure 16.

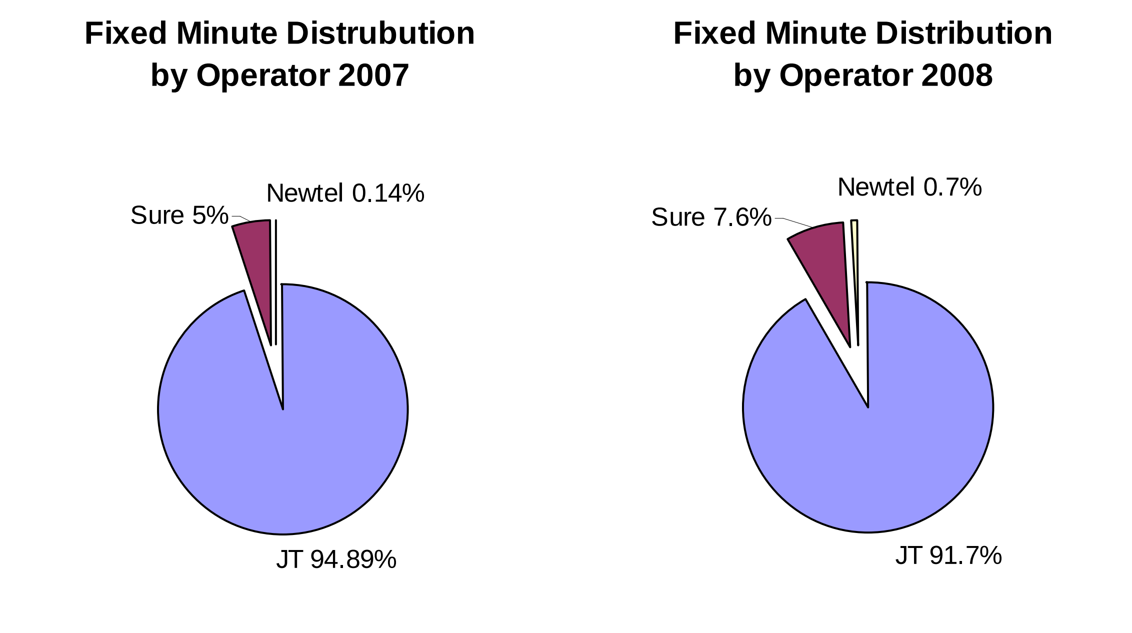



**Fig 16**

From this figure it can be seen that JT's share of the fixed line market has dropped from 95% to just under 92% during the last 12 months. However, this is in the face of a drop of 14% in the number of minutes originated by fixed line consumers over the same period. See Figure 17

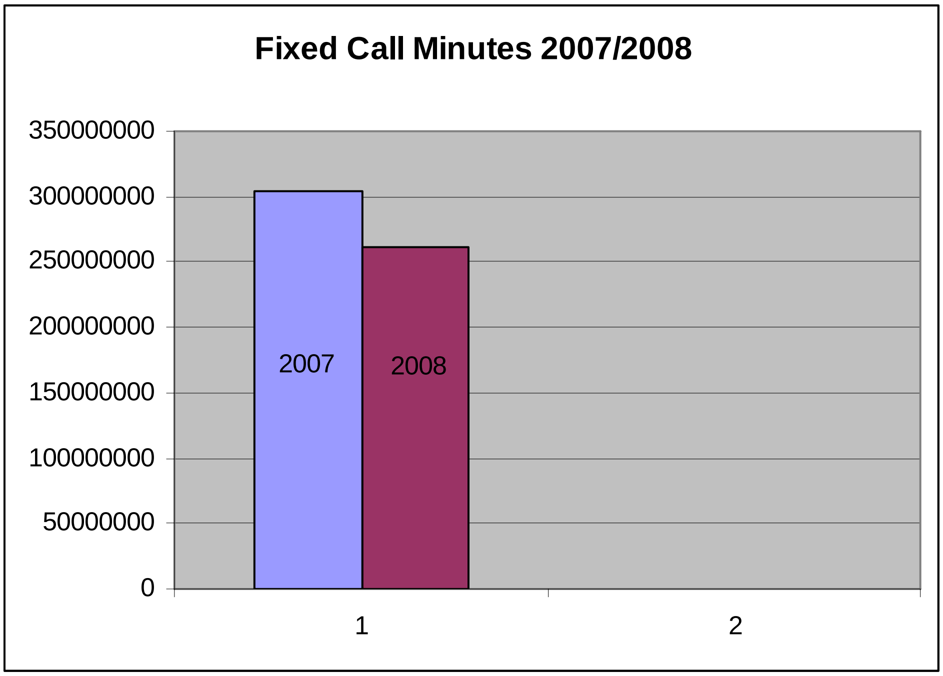



**Fig 17**

The number of fixed lines has been in decline since reaching a peak in the early part of this century see Figure 18. There are currently 58,321 fixed lines in service, 450 less than 2007.

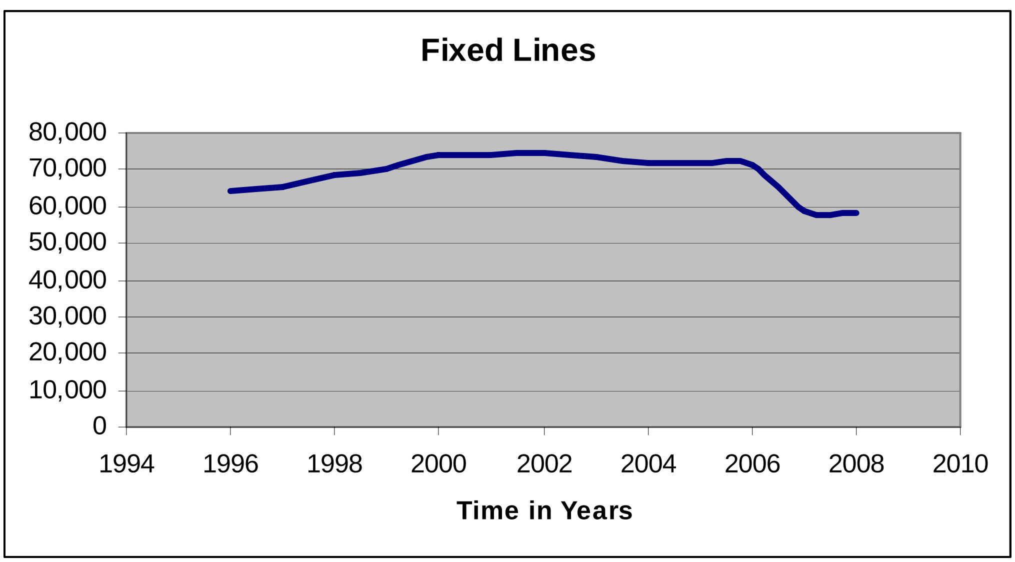



**Fig 18**

This trend can probably be explained as a consequence of both fixed-mobile substitution and the decline in the need for second lines for fax and/or dialup Internet access. There is a decline in calls originated on fixed lines, suggesting a trend towards a preference for mobile originated calls, a trend seen in other jurisdictions as consumers substitute mobile for fixed.

There has been an overall decline of almost 6.5% in total call minutes on all networks between 2007 and 2008 as shown in Figure 19.

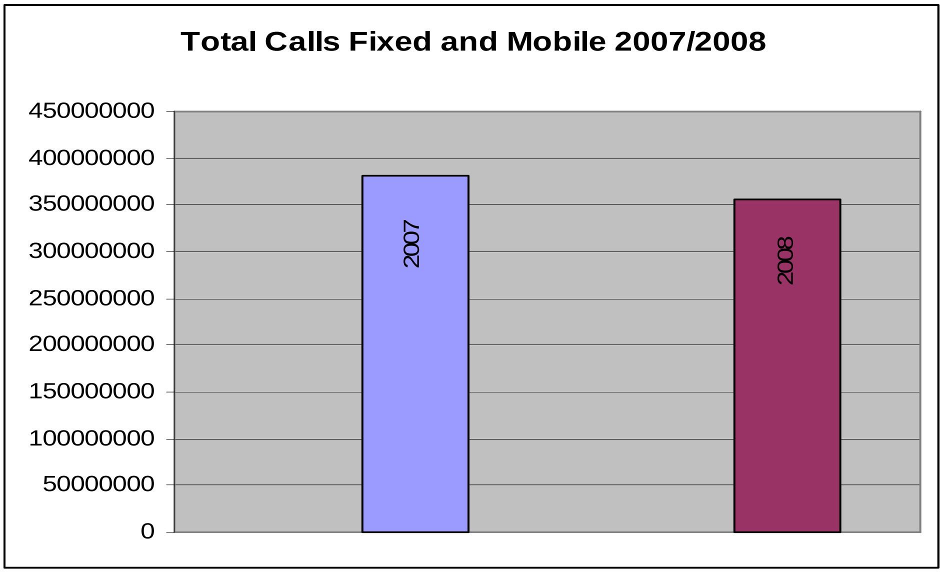



**Fig 19**

## Calling Data by Traffic Type

The number of call minutes by type of call during 2008 is shown in table 2 below.

| | **Fixed** | **Mobile** |
|---|---|---|
| **Total local fixed** | 109,401,916 | 15,466,587 |
| **Total of on-net minutes** | | 22,687,240 |
| **Total of off-net local mobile** | | 7,862,085 |
| **Total national fixed minutes** | 50,076,574 | 5,223,310 |
| **Total national mobile minutes** | 5,802,279 | 3,425,686 |
| **Total international minutes** | 14,426,838 | 10,323,541 |
| **Total other call minutes (1)** | 34,925,491 | 3,933,360 |
| **Total fixed to mobile** | 25,144,934 | |
| **Total fixed to ISP** | 21,358,038 | |
| **Total SMS on-net** | | 18,413,060 |
| **Total SMS off-net** | | 36,211,716 |

1 Other call minutes include Freephone, Premium and special numbers (087x, 084x etc)

**Table 2**

# Conclusion

The last year has seen some significant changes in both services and consumer behaviour. The impact of the introduction of MNP late in the year has yet to be measured, but early signs are that it is working well. Mobile broadband has already made an impact in the local market with significant increases in the use of bandwidth.