

2004!

Consumer Broadband Report (Bangalore/India)

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Introduction

Considered a essential service for any PC user these days in India.

Broadband is a lightning fast cable/xDSL connection to the internet which is always on 24 hours per day because it's a permanent connection to the internet. Nearly 10 times faster for downloading web pages, images, MP3s, movies, the lot.

A separate broadband connection means it doesn't tie up your phone line

Common Internet Access Definition :

broadband

***“Anything other than dialup modem(cable/xDSL/WiFi),
faster than 128k(isdn) & always connected”***

This report tries to explore many of the various options for broadband access in Bangalore with analysis & data that will be of value to both the internet users and even to newer services provider who are yet to start services.

Broadband Scene in India

The Indian Broadband Era started somewhere late in 1999 when DSL/Cable Service were introduced, later in 2000 actual market for broadband started. Now in it's 5th year of services things still seem bleak but the market has been rapidly expanding in numbers even if not in quality.

There are currently 6-8 Major Consumer Broadband providers(Who agree to provide Residential connections besides corporate users) currently operational in Bangalore.

Bangalore currently the fastest growing broadband market due to high density of PC users and software developers in India as can be looked upon a sample model which can be extrapolated for conditions in rest of India(mostly metros) where broadband access is possible & affordable.

Residential Broadband in India ? Yes & No.

Internet Connection, Yes. Is it really Broadband, Actually No(As per respectable international speeds > 512Kbps)

it's more of a always on affordable access rather than broadband. this is specially affordable when compared to a dialup 128Kbps ISDN connection(which seems to have disappeared in current market)

Although most providers wire you up with modems or connections capable of reaching in excess of 10mbps the actual bandwidth that's usable is still very limited and capped by the provider within 128Kbps and costs dramatically increase for 512Kbps if available as a option. On some saturated network access speeds are even slower than dial-up due to limited availability of affordable bandwidth.

So far every player has/had announced(many operations) thousands of kilometers of fiber/international gateways which were suppose to bring down internet access rates down, the big questions still remains of that of affordability, it doesn't matter if somebody has a million kilometers of fiber or 620Mbps connection if they can't sell atleast 10-20% of it's capacity in a reasonable time.

Average cost of a entry level connection is around ~Rs1000, but even at \$20 it's one of the most over-valued connection for average speed of ~64Kps(with traffics caps) that is provided anywhere in the world.

Types of Access Available

Cable: A cable modem enables hooked up your PC to a local cable TV line and receive data at upto **10Mbps** and transmit upto **2Mbps**. Provides 'always-on' access & allows a service provider to provide both TV and data on the same cable line. This means that one can effectively surf the Internet and watch TV without incurring any Telephone bills or per hour billing. The cable modem attaches to a standard Ethernet card in the computer.

Providers : Hathway, Siti, In2, Atria

LAN/MAN: An non-traditional method of accessing the Net in thickly populated areas. The neighborhood/local cable provider takes a leased line connection to the Net and redistributes it to several homes in the area.

This connection is comparable to cable Internet, but it's cheaper, and provides 'always-on' access. Typical local-loop speeds are LAN speed which are **10Mbps or 100Mbps**.

Providers : ICENET, Sify(Hybrid)

xDSL: A [Asymmetric|Multi-rate Symmetric|Symmetric|Very high bit-rate|Voice-over] Digital Subscriber line (xDSL) connects using a copper wire (normally a telephone line) and also sometimes lets you make regular telephone calls at the same time. DSL can be both "always-on" and "on-demand" of which only "always-on" makes any sense home residential users. Speeds for **local loop** vary from **128Kbps-2Mbps**

Providers : Dishnet DSL

Wi-Fi: Wireless Fidelity, it's a wireless networking technology. Wi-Fi network that uses a broadband connection, an access point and a Wi-Fi card inside of a computer to allow users to surf the Internet within a specific, Speeds upto **54Mbps**

Providers : Satyam APs(Silly for use though as it costs >\$1 for few min.)

DIAS : The latest technology on the block which is Direct Internet Access Offers a solution for always-on high-speed symmetrical Internet access on the existing telephone lines. Speeds of upto **2Mbps** can be achieved within 2.5Kms and **128Kbps** upto 5Kms from the Telephone Exchanges.

Providers : BSNL

Providers and their Packages

Broadband Internet Over Cable :

Hathway, Bangalore : Bombay Headquartered *Hathway Cable & Datacom* (Star owns 26% of it) provides access using Motorola SurfBoard modems for internet access at 64Kbps & 128Kbps (Modem speed cap) for Residential and Cyber Café Service. All packages are traffic use capped between 300mb to 1GB and cost between 650 to 1,500/Month.

Estimated Current Size* : ~3,000-4000 Connections

ZIML : Uses Motorola SurfBoard modems for internet access at 48Kbps, 64Kbps & 128Kbps (per IP cap) for Residential and Cyber Café Service. Some packages have **night-free** but at less than dialup speeds and slightly higher speeds with Traffic use capped between 500mb to 1GB and cost between 950 to 1,500/Month. Has been losing market share rapidly to all others after the infamous 48k hard caps and trouble with debt of it's parent network.

Estimated Size* : ~5,000-6000 Connections

In2Cable : Hinduja's Owned network mostly present in central bangalore also uses Surfboard modems on using their existing TV network.

Estimated Size* : ~1,500-2500 Connections

Atria Convergence : Atria Group Owned network uses unique Terayon modems on using their existing TV network. Most generous in traffic limit but weak on automated billing/online account services.

Estimated Size* : 1000-1300 Connections

ICENET : A non-traditional ISP providing access on LAN/MAN

Estimated Size* : 1000-1500 Connections

BSNL-DIAS : "Direct Internet Access Service" ~DSL covers most areas in bangalore & has almost unlimited intentional bandwidth access via NIB/Sancharnet due to being a Govt. Organization.

Estimated Size* : ~150-400 Connections

DishnetDSL : DSL provider covering central bangalore with DSL technology but with really good international bandwidth on their STM-1.

Estimated Size* : ~2500-5000 Connections

Sify : Latest entrent, unique plans which sell bandwidth rather than fixed monthly(like a mobile pre-paid), but may not be consistent service as the CTO(Cable TV Op) actually services you in a franchisee model.

Estimated Size* : ~50 Connections(Very New)

*Size based on sample survey, press & their published international bandwidth use.

Comparision

| Paramater | Hathway | Siti | In2Cable | Atria | ICenet | DDSL | BSNL | Sify |
|--|--------------|------------|--------------|---------------------|--------------|---------------------------------|--|---------------------------------|
| Connectivity Media | Cable | Cable | Cable | Cable | LAN | DSL | DIAS | Hybrid/Franchisee |
| Connection Device | SurfBoard | SurfBoard | SurfBoard | Terayon | Ethernet | USB Modem | Ethernet Bridge | Wireless/Ethernet |
| International Bandwidth | 10Mb | 22Mb | 4Mb | 2.5Mb | 4Mb | 45+Mb(Now STM1) | 10+Mb | 8+Mb |
| Via/Avg Latency | Sat/700ms | Sat/800ms | Sat/700ms | Sat/700ms | Sat/700ms | Fiber/200ms | Fiber/400ms | Sat/700ms |
| Speed Cap | 64Kbps | 48/64Kbps | 64K | 128K | Shared | 512K | 128K | 32-256K |
| Traffic Cap | 500mb | 100/500mb | 600mb | 1GB/Unlimited | NA | 500Mb | 500/1.5GB | Various(~1G) |
| HTTP(Port 80) Via | Forced Proxy | Clean | Forced Proxy | Forced Proxy | Forced Proxy | Clean | Clean | Clean |
| Usable BW(Shared BW/Users 1:10) | 28K | 25K | 22K | 31K | 33K | 450K Full | 128K Full | Full |
| Subscribers | ~3800 | ~6000-8000 | ~1500-2000 | ~1000-1300 | ~800-1400 | ~4000 | ~150-400 | ~50(New) |
| USP | NA | Night Free | NA | Highest Speed & Cap | Ethernet | Feels Faster due to Low Latency | Chepest 128K, Plenty of Usable Bandwidth | Sells Bandwidth Instead Monthly |
| Connectivity Quality Rank | 6 | 5 | 7 | 3 | 8 | 1 | 2 | 4 |
| Downloaders Cap Rank | 4 | 6 | 4 | 1 | 2 | 7 | 8 | 3 |
| Overall Value | 5 | 7 | 8 | 3 | 6 | 1 | 2 | 4 |

Missing providers : Providers who didn't qualify as true broadband always-on service were Touthtel DSL, DelDSL. Other not included due to no-residential service or low coverage area.

ISP Selection Pointers

Selecting the right Broadband ISP can be more homework than selecting a mobile service provider as many don't have coverages overlapping each other, it may turn out that only one of the 8 ISP's mentioned is covering your area and there is no other option but to take what's on offer.

But to a certain extent the latest and most hopeful provider BSNL & Sify has made the market competitive as they cover regions within 5km of their major exchanges/CTO Area using DIAS/LAN in most parts of Bangalore so you would have a choice of either Local Cable/DSL provider or BSNL or Sify. Here are some pointers for users of different style.

Home User for Email/Light-browsing :

Works out cheapest and fastest with no modem rentals or costly setup. Traffic cap of 500mb is more than sufficient for email & light-browsing @ around 850 BSNL DIAS would be the way to go.

Coverage : All Bangalore ; <5Km from BSNL Exchanges
Costs : ~2.5K Onetime + 850/m

Home User Email/Entertainment :

If you want to put internet to real use for not only email but download movie trailers from yahoo, watch streaming video like CNN/NDTV live, send/receive big attachments(w/o worrying about running of traffic limits) then try to get Atria Cablelite connection if available in your area as first preference as it provides most value for money with its most generous speeds and traffic limits.

Coverage : RT Nagar, Malleshwarama, Sadashivnagar
Costs : ~7.5K Onetime + 1350/m(Includes 500 modem rental)
Second Preference : ICENet - 5K + 1000/m or Neighborhood ISP

SOHO/SME : DishnetDSL if they cover due to lowest latency which would support comfortable video/audio conferencing at ease.

Coverage : Central Bangalore, Airport Rd. & Around
Second Preference : ZIML - ~6K + 3000/m

Café User : Any Cable provider would be best package(in terms of costs) for Café owner with multiple machine, if no coverage Neighborhood ISP would be best deal for commercial use.

Coverage : All Bangalore
Costs : ~7.5K + 1,000/Machine/month (unlimited traffic for cafes)

Industry Snapshot

As things stand of early 2004, the market is getting ready for entry of huge/serious players(or/& ready for M&A) and to most existing player this will mean loss of whatsoever advantage they had as the sector becomes unfair odds(The game for Tier-1 provider, bandwidth is exchanged not sold) of competition with the roll-out of giants like Reliance Infocom.

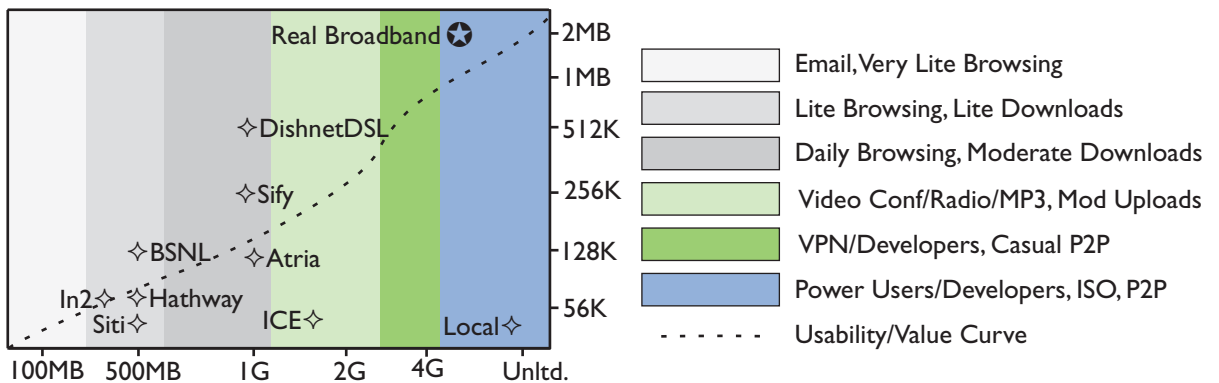
As the trend shows the traditional MSO cable companies are rapidly losing battle as every one of them are losing market share as the 2004 ranking reflect.

| 2003 | | | 2004 | | |
|------|----------------|----|------|----------------|---|
| 1 | Siti/ZeeNext | ↑ | 1 | DishnetDSL | ↑ |
| 2 | Hathway | ↑ | 2 | Siti/ZeeNext | ↓ |
| 3 | In2Cable | ↓ | 3 | SIFY | ☼ |
| 4 | Atria Converg. | ↓ | 4 | Hathway | ↓ |
| 5 | DishnetDSL | ↑ | 5 | In2Cable | ↓ |
| 6 | ICENet | UC | 6 | Atria Converg. | ↓ |
| 7 | BSNL | ☼ | 7 | BSNL | ↑ |
| | | | 8 | ICENet | ↓ |
| | | | - | Reliance Info | ↗ |
| | | | - | VSNL/TTSL | ↗ |

| | |
|-------------------|--------------------|
| ↑- Gaining Edge | ☼- New Entry |
| ↓- Declining Edge | ↗- About to Launch |

The below analysis shows a normalized comparison of where everybody stand, the providers below usability curve are declining(due to natural market selection) and the above gaining, we(the users!) are hoping Reliance will save the day and drives the market out of un-organized chaos with a big bang value offering(just like their RIM Mobile for Rs.500) would deliver real broadband breaking both speed/traffic & price barrier to enter the market.

Volume game is defiantly possible for a big player after all potential Market Size conservatively estimated to be around atleast 84,000 Customers in Bangalore alone(Note: Bangalore has more than 150,000 Software Developers(not counting ITES!) and not to mention other professionals in media, medical, finance needing usable/real broadband).



Notes : Using normalized value averaging

Past, Present, Future

National Bandwidth Scarcity woes for end users(Broadband) :

According to subscriber no. provided by most providers, there are anywhere around ~150,000 consumer broadband connections in india and out of which 30,000 are in bangalore alone.

Thus calculating the bandwidth requirements say for india at 1:10 ration would be

@128K x 15K = 1.92GB
 @256Kbp x 18K = 3.8GB Total
 @512Kbp x 18K = 7.6GB Total
 @2Mbps x 18K = 30.4GB Total

But total bandwidth bought by all the consumer broadband companies is less than 300mb which make a huge under-supply of bandwidth to reach international sites in US & Europe.

What's Available/Supply :

India is connected with flag(~10GB useable) or i2i(~8gb useable) has a useable capacity of 15Gb total so almost 50% of it already has a ready market(just the residential/cafe pie) if sold at sane international price, and considering the growth once the bandwidth costs go down other 50% will be easily consumed within months of price reduction.

Nasscom had projected 300 Gbps Internet bandwidth demand in India by 2005 but now it seems very hard to realise that use in next 18 months unless the bandwidth prices are brought down to sane-interntional figures.

International bandwidth price : <\$250/mb(for Asia)
 Indian Inflated bandwidth price : ~\$1000/mb/month

Silly Routing/Wastage of Bandwidth : There is a desperate need for India Internet exchange as most the traffic/email even originating from say from Hathway, Bangalore to SitiCable, Bangalore(~5Km away) loops all the way around to US and back thus incurring 2x international bandwidth which otherwise could have been put to better use(reduction of costs by twice!) by doubling the available capacity.

Future Prospect : Most promising of all has been the newest entrant BSNL (once they decide to reduce price/increase speeds) & it will be very interesting to watch how Reliance broadband plans are implemented.

Conclusion

Who is the best of all :

Well, Still Nobody!

Every existing providers seem to have some or other limitations and almost everybody has almost effective near dial-up speed which is really pathetic for a true broadband connection. The market is yet to be fully commercialized. Only exceptions to this is the BSNL with 128K DIAS & plenty of International bandwidth(almost 1:1) because of being a very new & underutilized network.

Watchout for Future : It will be interesting when Reliance enters Consumer Broadband market(anytime now just in time for the their IPO) as they have extensive access to international bandwidth(FLAG), but so far Touchtel/Bharati has been a downer for home users with their time limited costly packages and no major corrections in prices for international bandwidth on their i2i network.

Ideal ISP Deal : As the market is not yet established fully and nobody realizing the multimedia applications capabilities of using broadband internet(due to lower <128K speeds), an ideal access package would be

Speed : 1Mb Soft Cap

(Intelligent Network : Can use more when available say during non-peak/night)

Traffic Cap : 5GB

(allows actual broadband applications to be used instead of insanely being limited to as good as a dialup or even lesser, being fair as they don't extort either in per mb but limits illegal or overuse like p2p)

Extra : 1GB/500

Why 1Mb : 1Mb is the entry level speed for full potential use of internet and is fully viable/possible for ISP's using international bandwidth based on fiber & running intelligent networks. This allows rich multimedia applications like video conferencing, net streaming, trailer downloads, online radio, ebook/application downloads(thus sales), opensource development and collaborative environment enabling work from home to be practical.

Other Providers

Other non-qualified providers :

PSTN Dialups : Pay by call(3 minutes)

- VSNL/TATA Indicom (~750/100hrs)
- BSNL (~500/100hrs)
- Sify
- Dishnet
- Mantra(if still operating)
- Net4India(if still operating)
- few more ailing dialups providers gone/going shutting down.

Exclusive PSTN : Dedicated BSNL line for Rs.500/m for unlimited access to 172xxx numbers, but actual internet access costs per hours(aprox Rs.7.5/hr)

- BSNL
- VSNL
- etc.

Mobile High-speed Dialups : Different Industry and Broadband access only a by-product and offering on-demand internet access (billed in airtime/minutes!) to match other competitors in VAS offerings.

- Airtel GPRS(9.6K/600/m)
- Hutch GPRS(9.6K/500/m)
- RIM CDMA Mobile(~100Kbps/airtime)
- TTSL CDMA(~48Kbps/airtime)

DSL Dialup : Providers who haven't still figured out that nobody wants pay by hour for broadband just to be on IM/Chat or say leisurely read news on net or even respond to a email in detail.

- Bharthi Broadband(~64/128k for hours)
- DelDSL(Unknown if still Operating)

WiFi/AP : Some ~100 AP's across city mostly in cafes, pubs & other people places. Billed by the minute, instead of spending a fortune for luxury of browsing while sipping a coffee you could just walk over to the nearest cyber café within 250mnts from any commercial center and finish browsing and come back to enjoy coffee wholeheartedly.

- SIFY WiFi (Billed per minutes or blocks)

[Tip : Try using a normal dialup(172222/6) on a GSM phone with data cable to laptop instead of using WiFi as it works out cheaper even though you will be paying by the minute in airtime or for unlimited mobile use subscribe to unlimited but slow internet on GPRS(~600/m).]

Reference/Links

ZIML/SitiCable/ZeeAccess :

<http://ww.zeeaccess.com>

Phone : 5581234 (24hrs)

Comment : ZIML/Siti Cable - Web Site not updated so all packages/tariff are not current, Call to find recent info.

Hathway, Bangalore :

<http://www.hathway.com>

Phone : 9623800000

Comment : Web Site may be not updated so all packages/tariff are not current, Call to find recent info.

Atria Convergence :

<http://www.cablelite.com>

Phone : 3539270

Comment : Web Site contains no package or tariff info online or Covered Areas, Call to find out.

DishnetDSL :

<http://www.ddsl.net/>

Phone : 5585643

Comment : Website is a mystery as there is no sight of any packages or tariff linked or visible directly from entry page. However after hours of searching the url is somewhere hidden is

<Http://corporate.ddsl.net/prodserv/dsl.asp>

BSNL :

<http://www.bsnl.co.in/>

Phone : 2862929

Comment : Correct info on packages(DIAS) from menu, tariff and even technology is explained in simple words and diagrams.

Sify

<http://broadband.sify.com/>

Phone : 1-901-338888

Comment : Two catches (a) Franchisee (b) Pricy for downloaders

NASSCOM

<http://www.ww.nasscom.org/>

Comment : Information & Statistics on Indian IT Scene including internet access market information.

ISPAI :

<http://www.ispai.com/>

Tel : 011- 2642 4001

Comment : Internet Service Providers Association of India, with extensive list of ISP's in India as members.