

Reliance Communications: The Real End-to-End IP player

Updated: July 1, 2008

Summary

While the nation is busy building its infrastructure story, one company is quietly enabling the digital infrastructure for the next century. No prizes for guessing the right answer. It is Reliance Communications. From what appeared to be a fairly disjointed set of distributed IP assets and a confusing array of cellular infrastructure just a year ago, this company has virtually built, acquired or modified all the relevant pieces for a complete end-to-end media / communications / broadband / personalization / infotainment play from the source to the sink like no other. What makes this even more stunning is the phenomenal investments both in infrastructure and network plumbing – terrestrial, undersea and over the air to personal entertainment at home, work and at play via a dizzying array of Broadband VAS for the couch as well as the mobile road-warriors.

While many may have written off its CDMA play as a losing proposition, this phoenix has risen beyond anyone's wildest imaginations creating a multi-headed hydra ready to take on a billion strong nation emerging into the digital chaos of the next 50 years. With its enormous ammunition this gladiator appears unstoppable. Catch this profile as it looks today in as brief a story as possible. The diagram on page 2 illustrates the sweeping IP-fabric that will allow innumerable possibilities as Reliance ADA begins to create value, generate profitability, build-scale and unlock into independent units using public funds where appropriate and sharing wealth with its millions of share holders. This is no trivial short-term play.

Investor Interests:

While there was some amount of speculation that Reliance Entertainment could actually be planning an IPO, on Feb 07, 2008 George Soros – the billionaire global investor picked up 3 percent stake in Reliance Entertainment for \$100 million, effectively valuing the company at around \$3 billion.

Soros was one of the seven investors (alongwith HSBC, Fortress Capital, New Silk, Galleon, DA Capital and GLG (SEO: 066570) Capital) who had pumped in about \$350 million in another Reliance ADAG company - Reliance Telecom Infrastructure Ltd. - which owns transmission

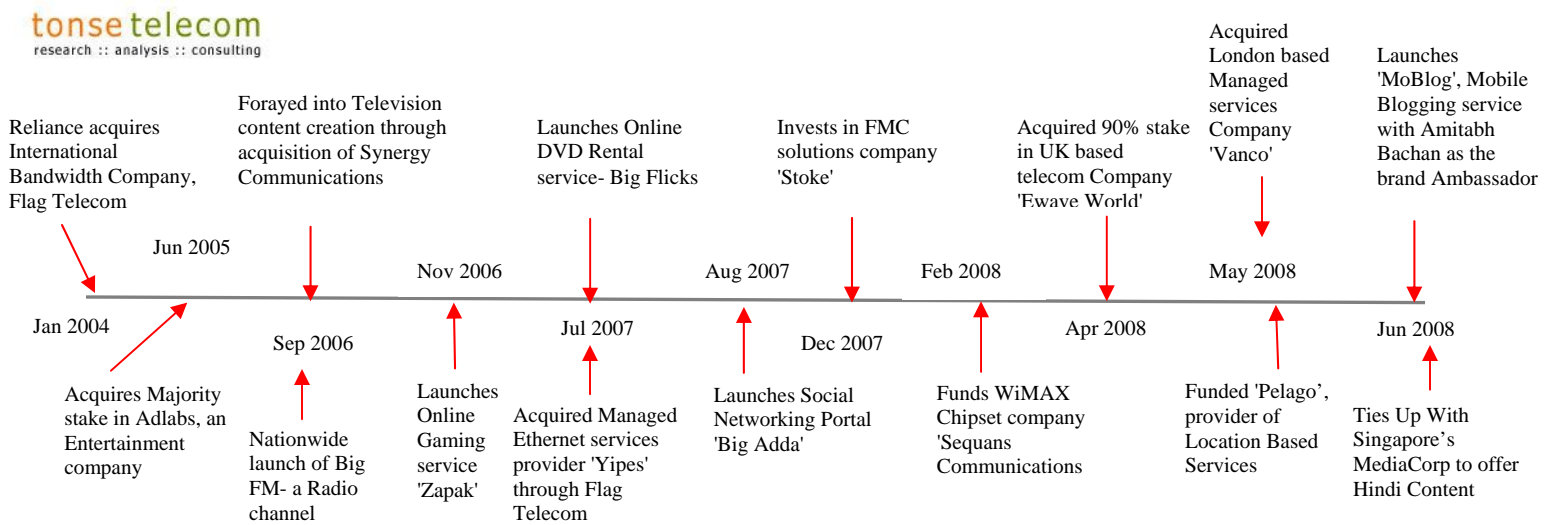
towers and infrastructure of Reliance Communications. Reliance Telecom Infrastructure is planning to go for an IPO.

Reliance Entertainment comprises of seven entities: Zapak (casual gaming portal), Big Adda (social networking site), Big Flicks (Movie streaming and rental), Jump Games (Mobile gaming), Anirights (Animation), BIG Music, and BIG Movies.

Watch this global giant emerge and take over the new world with its BIG broadband brand.

About Reliance Communications:

Reliance Communications, part of Reliance ADA Group, is an integrated telecom operator with presence in wireless (CDMA + GSM), long-distance (wholesale voice and data), broadband and international business + consumer voice / data services. CDMA services in 21 circles and GSM cellular in 8 out of 23 national circles combine to form about 18% cellular market share.



Reliance Communications: Timeline

1. International IP / Submarine Assets:

FLAG: The international carrier

FLAG Telecom, short for “Fiber Link Across the Globe”, is a Reliance Group company. It owns and manages an extensive optic fiber network that spans four continents and connects key international business markets, through a number of subsidiaries.

FLAG Subsidiaries

FLAG Europe-Asia: The world's longest privately funded under-sea fiber-optic cable system, it stretches more than 28,000 km — from the UK to Japan — and has landing sites in 13 countries.

FLAG Atlantic-1: The world's first multi-terabit trans-oceanic dual cable system. It provides a fully protected city-to-city service between London, Paris and New York.

FLAG North Asian loop: Handles Internet traffic within Asia and offers city-to-city connectivity between Hong Kong, Seoul, Tokyo and Taipei.

FLAG Europe: A terrestrial network, it links major European business centers and provides intercontinental SDH capacity, as well as 10 Gbps optical wavelength connectivity

Traffic carried: ILD Voice minutes exceeded 1,747 million minutes for 3Q FY 2008

Reliance ADA acquired Yipes in 2007 and folded it into the Reliance Communications umbrella under FLAG brand name.

About Yipes

- Yipes was a leading provider of managed Ethernet and application delivery services for the global enterprise.
- Established in 1999, Yipes has pioneered Metro Ethernet and has developed leading edge proprietary products to meet the exacting requirements of its customers. Ethernet is the fastest growing segment of the data communications market, driven by the migration of enterprise customers from older private network technologies. Infonetics Research

forecasts the Ethernet services market will surge by over 30% CAGR from 2006 to 2010 when it will top \$ 25 billion worldwide.

- Yipes has nearly 1,000 enterprise customers, concentrated across 4 industry verticals - financial, legal, government and healthcare - which currently account for 50% of the Ethernet market. Yipes has developed communications platforms that act as the oxygen for entire industry communities.
- Yipes, headquartered in San Francisco, owns over 22,000 route kilometres of fibre across 14 US metros, which covers around 40% of the total US datacom market. In addition, Yipes is present in London, Hong Kong and Tokyo.
- The Yipes acquisition provides a strong local network provider for Reliance as it pursues its global corporate customer base enabling for them a single vendor trans-Atlantic service pipeline. This could be the best example of a truly Managed-services operation which global enterprises can benefit from.

2. Metro Ethernet / Domestic Broadband Assets and Infrastructure

- There is no description of the total network spread on a per-city basis.
- Total service areas operational over 18 including broadband coverage of towns exceeding 42
- Total number of Access lines above 900k (0.9million) and total number of buildings connected directly exceeding 725k (0.725million)

3. BWA / Broadband Wireless Access / WiMAX Connectivity

- Information available indicates current WiMAX coverage available in Bangalore, Mumbai, Pune and Hyderabad. The service needs to be further tuned and full-fledged unlimited coverage is currently not available across these towns. The total number of WiMAX towers are in the range of about 45-50 but coverage is still spotty. Consumer feedback appears to be mixed and these are early days. Reliance Communications is an early-bird and these commercial engagements would give the company a deeper understanding of radio set-up, security issues, nomadic access in fixed WiMAX environments, device-level interoperability and radio propagation characteristics.
- Reliance holds 3.3GHz band which is being used for these locations. WiMAX could also be used as a backhaul elsewhere when a customer uses any specific service and not

realize that WiMAX may have actually carried his traffic. Larger scale WiMAX deployments are certainly on the way in parts of cities and this sector is bound to show some extra-ordinary growth rates once the Spectrum allocation policy is fully announcements are fully released.

Feb, 2008

- Sequans communications, a leading WiMAX chipset company was funded by Reliance Technology Ventures Limited, the corporate venture capital arm of the Reliance ADA Group.
- Reliance carries Telsima hardware / software and provisioning systems in the WiMAX infrastructure. Incidentally, Telsima StarMAX base stations and subscriber stations used by Reliance Communications in its current deployments are powered by Sequans chipsets.

Apr, 2008

- Reliance confirmed the speculations about its acquisition of a Europe based WiMAX operator by buying a 90 percent stake in eWave World, a UK based telecom company through its global arm, Reliance Globalcom for an undisclosed amount. eWave World has been increasing its presence in emerging markets all over the globe since it's inception 18 months ago. It has a strong presence in China, where it co-owns an optic fibre network spanning 36,000 km. The company boasts of senior executives who have made possible, acquisitions and joint ventures in Latin America, Africa, Eastern Europe and Asia/Pacific to help eWave acquire WiMAX licenses in these regions. Armed with these licenses, Reliance is all set to achieving its goal of deploying WiMAX services in 50 countries by the year 2012. The coming years will see Reliance investing \$500 million to expand its global footprint by building and acquiring WiMAX networks in emerging markets across the world.

May, 2008

4. Managed Services

Vanco, the London based Managed Network services provider was acquired by Reliance Communications for \$76.9 million. With this acquisition, Reliance Communications has increased its global footprint and its tally of Enterprise customers to over 1400. Vanco's managed network services are available in over 40,000 locations across 163 countries helping Reliance achieve a stronger presence in the Global Datacommunications market.

Started in 1988, Vanco achieved success through Virtual Network Services wherein it helped design, develop and maintain large enterprise networks. Annual reports indicate a steady growth in the

company's revenues till the end of fiscal year 2006. In 2007, financial uncertainty and debts led to a steep decline in the company's share prices. Further deterioration in its finances saw Vanco suspending its shares in the London Stock Exchange in May, 2008. At this juncture, Reliance acquired a 100% stake in Vanco and is known to have undertaken a massive restructuring program to improve the company's present condition. In the long run, Reliance will benefit immensely from Vanco's long term contracts with enterprise customers sum upto a little over \$750 million. The acquisition will help Reliance broaden its customer base and service portfolio by working with its other subsidiaries Yipes and eWave.

Dec, 2007

5. Fixed Mobile Convergence

Stoke Inc.: Reliance made its foray into Fixed Mobile convergence through a strategic investment in California-based Stoke, Inc. Stoke offers an integrated solution to deliver a multimedia subscriber experiences across fixed, cellular, Wi-Fi and WiMAX networks. Stoke is revolutionizing the carrier edge with the industry's first multi-access convergence gateway purpose-built for contemporary access requirements. The Stoke Session Exchange (SSX) is engineered to perform converged, multimedia IP session management and mobility across multiple access technologies - including fixed, cellular, Wi-Fi and WiMAX.

5. Cellular Infrastructure

Reliance Communications currently operates both CDMA and GSM services. Wireless Revenues in this sector for Reliance is about Rs. 39.56 Bil (roughly equal to about \$1 Bil.). A massive GSM roll-out will soon be underway as Reliance as the company seeks to expand into GSM circles. The current subscriber base for Reliance is 35.473 mil in CDMA sector (and about 40.964million combined in cellular sector). Wireless ARPU (from company quarterly reports and analyst reports 3Q FY2008) is Rs 339 (\$8.475) and subscriber usage is at 449 minutes / subscriber / month.

The company has its own set of challenges in terms of equitable customer management / self-churn with customers likely moving from CDMA to GSM and evolution path for existing GSM subscribers. Reliance is currently bidding for additional GSM licenses for a pan-India operation and it needs to be seen how this will work out. It is unclear whether the plan is to

run two parallel cellular networks or merge them into a seamless 3G system when that becomes available, provide cellular Value Added Services VAS portability across these networks or maintain independent networks.

6. Tower Business:

Reliance Tower subsidiary Reliance Infratel will spend in excess of US\$2 Bil in FY 2009 as it targets 36,000 towers by March 2008 and about 60,000 towers by March 2009 (estimates). The company is in discussions with several potential new entrants in the wireless segment for tying up external tenancy for its towers. In the capital-intensive towers business, one path that this business could take is that it lists separately and starts building its own path into the future. The Indian cellular markets would continue to absorb an additional estimated 250,000 towers before 2011 and at about \$75k per tower that is a lot of funds required. The tenancy being an important aspect of this business as operators share towers to increase their footprint at the least cost possible, and an additional 20 or so new licenses to be released, there is continued demand for the tower assets.

For integrated operators such as Reliance, reuse of existing CDMA towers is an immediate benefit. The same towers could be used for WiMAX / 3G / GSM points of presence with dedicated radios (this may not be as straightforward as it appears as there are bound to be interference, power and dissipation issues to be managed). Besides with emerging SDR-type solutions, there is a clear possibility that in some locations Reliance could actually reuse its radio (not sharing across operators but within its own networks) which is not a regulated zone. Reliance is already evaluating the possibility in discussions with SDR solution vendors.

7. BIG Brand:

The BIG brand is going to be just that: big. The company has picked several valuable assets in digital media / entertainment / personal infotainment / IPTV / FM radio and other forms of audio / video which is a spectacular array of what-have-you for every demographic. Here is a snap-shot of shape of things to come:

Big FM:

- BIG 92.7 FM is poised to create history with its pan India presence, spanning across 45 cities, 1000 towns and 50,000 villages to reach 200 million Indians. The company plans to take FM radio as a medium of entertainment not only to the key metros, but

also to virgin markets that have never before experienced this medium of entertainment.

- With an investment of Rs. 400 crore dedicated to Transmission Equipment, Infrastructure and licensing, the proposed network will be the largest ever. The overall manpower strength will stand at 1000 employees nationwide. The IP protocol technology being utilized for BIG 92.7 FM has been sourced from AXIA, USA making this station amongst the first to utilize such superior gear in Asia.
- BIG 92.7 FM will bring 24x7 unique entertainment from a highly advanced and state-of-the-art radio broadcast technology via transmitters with web based remote management capability, hot swappable power supply and power amplifier with controller card redundancy. The transmitters have the capability of back up play time of four hours of music or pre-programmed content in case of any link failure. The highlight of BIG 92.7 FM will be a web-based Media Monitoring Center (MMC) at Mumbai to monitor all the 45 stations live and provide round-the-clock hands on solutions and technical support.

June, 2008

Big FM has tied up with Singapore's Radio Network MediaCorp to offer Hindi music to Singapore's Indian population. Indians in Singapore account to 9% of Singapore's total population and Reliance intends to tap this niche market. This tie-up will allow Big FM to broadcast Hindi content to Singapore audience during a specifically assigned time slot everyday.

The Network

North – 20 cities

Chandigarh, Hissar, Shimla, Ajmer, Kota, Jodhpur, Bikaner, Udaipur, Srinagar, Jammu, Patiala, Jalandhar, Jhansi, Bareilly, Aligarh, Amritsar, Agra, Allahabad, Kanpur, New Delhi

East– 7 cities

Guwahati, Rourkela, Bhubaneshwar, Ranchi, Jamshedpur, Asansol, Kolkata

West – 9 cities

Panaji, Sholapur, Gwalior, Bhopal, Indore, Rajkot, Vadodara, Surat, Mumbai

South – 9 cities

Pondicherry, Tirupathi, Thurivananthapuram, Vishakhapatman, Chennai, Bangalore, Hyderabad, Mangalore, Mysore

- **ADLABS**

Adlabs is by far the largest entertainment conglomerate in the country covering - production, distribution, processing or in cinemas - having started as a laboratory for processing ad films over three decades ago.

In June 2005, Reliance became majority promoter shareholder of Adlabs.

In 2006 Adlabs forayed into television content creation by becoming majority stakeholders of Siddhartha Basu's Synergy Communications, a leading player in quizzes and game shows in India for almost two decades. The new entity Synergy Adlabs continues to create exciting and varied fare in new genres for the exploding television industry in India.

Adlabs Cinema: In the year to come, more than 20 million people are expected to watch a movie on an Adlabs screen. With one IMAX theatre, 45 properties, 131 screens and counting, Adlabs Cinemas is the largest cinema chain in India

- **ZAPAK**

Zapak Digital Entertainment Limited (Zapak) is a full-service software gaming entertainment company and a part of the Reliance Anil Dhirubhai Ambani Group. It is the place for the most exclusive game content for both the casual and the hardcore gamers. There also appears to be a relationship with Jump Games, a mobile and PC gaming company from India.

This full-service Gaming Entertainment Company Zapak Digital Entertainment Ltd intends a complete roll out of its services in 3 phases. The first phase of the portfolio would witness the launch of Zapak.com - India's largest gaming portal. The second phase would see the roll out of Zapak Zones - exclusive gaming cafe's across the country and in the third phase Zapak Digital Entertainment Ltd. would introduce Massively Multiplayer Online Games (MMOG) - the rage in online gaming worldwide. Zapak would invest over \$100 million over the next 3 years in this venture, according to some press reports.

Zapak has had about 1.7million unique visitors to the site in May 2007 and probably has about 3 million users toward end of 2007.

- **Big Adda**

Positioned as the Indian Blog and Youth Networking site, Big Adda is rapidly becoming the rage among digitally equipped Indian youth.

Big Adda recently claimed to have garnered 1.24 million registered users and aim to reach 10 million users by 2010 (Jan 2008). According to an earlier interview with the president of Reliance Entertainment,

Big Adda had about 100k users in August 2007 and going by that this is a 10 – 12 fold rise in just 5 months. The total advertising budget for Big Adda around Aug 2007 was about Rs 5 crores (\$1.2 Mil). Of which Rs. 2 crores (\$500k) was allocated for on-line advertising. This kind of advertising and promotion with a very strong focus on the youth market may have triggered a strong usage growth.

May, 2008

Seattle based Pelago, the developer of Mobile Social network 'Whrrl' received funding from Reliance Ventures, the venture capital arm of Reliance ADA. 'Whrrl' is a mobile social network clubbed with Location based services allows users to rate, review and comment on events and places. Currently, Whrrl is available nationally in the US and provides information on location specific offers by stores in select metros. This investment has created speculations about Reliance integrating Mobile social networking in its Cellular communications services in India.

June, 2008

Big Adda introduces Mobile blogging, allowing users to key in their blogs from their internet enabled phones. The Micro-blogging service named 'MoBlog' enables users to blog using their mobile phones. Currently the service is offered exclusively to Amitabh Bachan, who blogs on Big Adda through his GPRS enabled phone.

- **Big Maps**

There is another initiative by the BIG brand to build digital city maps covering most Indian cities and towns. Not a whole lot is known about this initiative but it is definitely relevant considering that there is not a single comprehensive digital coverage of the whole

country. Perhaps ISRO or the MOD would have one but unlikely that any of the telcos or other agencies including map publishing houses have a comprehensive digital India map covering every tier 1, 2 and 3 towns including rural India. At some point this is going to be a major requirement and whoever holds the rights to this info is going to be able to leverage the IP to the fullest. Location based services, emergency 911 type services, logistics and navigational aids, travel, recreation and security services are all based on an underlying map information which is vital.

- **BigFlicks**

BigFlicks is the outcome of the Reliance ADA Group's vision to source and deliver premium home entertainment content to the consumer within the convenience and comfort of his home. The ultimate destination is the home of every entertainment lover via multiple channels of digital content distribution. BigFlicks employs the mode of downloadable digital entertainment content for the overseas Indian diaspora, and for the Indian public who can now rent and have a movie delivered to a place and at a time suited to him.

The vast, ever-expanding libraries of home entertainment at BigFlicks encompass the worlds of movies and TV Shows across languages and genres, as well as gaming DVDs and VCDs to satisfy gamers of varying calibre. BigFlicks ensures convenient access to this vast library in the form of free delivery and pick up through our Call Centre, Website, SMS service and On Ground Stores. The promise here is a unique user experience: be it in the form of queues, ratings, recommendations and a smartly catalogued library online. Or via a network of inter-linked Stores, Distribution Centres, Call Centre or SMS convenience to order, pick up and get your preferred titles delivered to the customer door-step.

Look forward to a customer-oriented choice of payment plans. From monthly subscriptions starting as low as Rs. 250/- per month to occasional Pick and Pay plans, our subscription plans are flexibly tailored to maximize your movie watching as per your appetite.

BigFlicks will initially kickstart operations in Pune, Chandigarh and Hyderabad, to be followed soon by its debut in Mumbai, Delhi, Kolkata, Chennai, Cochin and Ahmedabad.

- **BlueMagic**

The planned IPTV services from Reliance is also well underway as the organization gears up regional language content, electronic programming guide [with multiple Indian language support], and digital entertainment of the kinds mentioned above to be delivered via IP to the living room. As one would observe the mix and match of content to be made available over a variety of devices across the multiple tiers of society in India is an on-going challenge. But no diversity appears big enough to match the vision of Reliance Communications / Reliance ADA Group that appears to have crafted the perfect strategy – laser sharp, yet flexible, all-encompassing yet personalized just for the common Indian.

Comments:

So is all well for this giant that promises to offer everything under the sun on the digital highway? The question is somewhat tricky because in the Internet business, a lot of things have to come together and stay together to build large successful sustained businesses. Look at Yahoo for example (a company with 14 years of pioneering effort in the global Internet can fall hopelessly behind just in a span of a year and half.) The stakes are very high and competitive market place can spring surprises.

- While Reliance is building multiple niche Internet properties, as listed above, there does not appear to be a common portal to present the properties to the consumer. Or at least it is not yet clear. Is this by design or not? Should the portal happen first and then the properties build-out or the other way round? Too early to tell.
- Pathetic broadband penetration – This is a reality (just about 3mil connections over wire). However it does not mean anything for in the long run, this market will boom – if the Governmental policy is met we should have 20 million broadband connections by 2010 – if we get halfway there, we are still talking about 10 mil connections.
- The current Internet advertising business could grow to about 5 fold by 2010 – which might place it in the range of about \$400 mil, a moderate size and with mobile Internet usage growing this could take off from then on.
- Poor Search – search capabilities seem to be most critical power points in On-line industry. How successful can an Advertising based model work by itself? The Indian

landscape could soon require regional language support to the Internet – such as local search in Punjabi / voice search / such requirements will begin to dominate. The Internet business is about constant innovation and up-grading – something that could drain an ad-based revenue model.

- On the bright side of-course the breadth of service offerings and the wide target base (mobile, pc user, cyber-café users) will allow a lot of content recycling and positioning which will play out to the advantage. Besides the revenue model is a mix of ad-driven, sponsored and subscription which will allow an interesting mix. Not to mention, a complete bevy of services un-imagined so far – such as inter-active Television, IPTV services and seamless – personalized content could keep this nimble, fleet footed giant miles ahead of competition. !!

Watch this space as we cover future developments.

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