

TELECOM BUZZ!!!

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Reaching the 'Last Mile'



3G Failed the Litmus Test; Will 4G Mirror 3G???



Apple's iPhone 5 infringes patents, says Samsung



MobileComm In- Building Solutions: Enhancing Every Subscriber's Call Experience



From the Editor

When it comes to quality of connection, customers have higher expectations than ever. They want nothing but an 'always connected' network from their providers. In order to reduce unwanted churn and retain customers, delivering exceptional service and reaching till the last mile has become mandatory for the service providers. 'Last Mile' here refers to the final leg of the telecom network set up delivering connectivity to the customer. It is not just the last mile technologies such as 3G, 4G that guarantees a good connection, the impetus lies on the delivery systems that carry these technologies till the consumers end. No where is the demand for more capacity felt than in the backhaul.

Looking into the backhaul options, operators can choose one of three physical mediums; copper, fiber or microwave. Looking forward, fiber is expected to claim the major share of the market due to its infinite capacity and high speed. There are many opportunities to take advantage of when it comes to last mile connection but what requires utmost focus is the infrastructure development so as to make 'Last Mile' connectivity a reality.

We are continually working towards improving 'Telecom Buzz', therefore feel free to dash me a note with any ideas you may have at newsletters@mcpsinc.com.

Job Openings

- **3G RF Trainer** – Gurgaon (5 – 7 years of relevant experience)
- **GIS Software Developer** – Gurgaon (3 -6 years of relevant experience)
- **Graphic Script Writer** – Gurgaon (2 – 5 years of relevant experience)
- **EMF Survey Coordinator** – Pan India (2 – 3 Years of relevant experience)
- **EMF Survey Engineer** – Pan India (1-3 years of relevant experience)
- **Optimization Engineer** - Pan India (3-5 years of relevant experience)
- **VBA/Unix Developer** – Gurgaon (1-2 years of relevant experience)

Key Company Highlights

- **NSN awards US Cellular's prestigious LTE Optimization Project to MobileComm. The project will be managed co-operatively by both MobileComm USA and India through their VPO.**
- **MobileComm partners with 'Skyfiber'- an international provider of Optical Wireless Broadband solutions to deliver efficient backhaul solutions.**
- **After a successful External Audit, MobileComm India has received the certifications on OHSAS 18000:2007 for Occupational Health & Safety and ISO 14001:2004 for Environment Management System from CABINET DE GESTION (CDG) accredited by Dubai Accreditation Center (DAC).**



Reaching the 'Last Mile'

One of the critical challenges facing Service providers of all sizes around the country - how to deal with the Insatiable bandwidth appetite of the consumers. The evolution of wireless technologies, explosion of smartphones, and 3G capable laptops coupled with the growing demand for real time video and data applications have caused the explosion of data traffic on mobile networks.

Not only is the demand for broadband access at an all-time high, but with the amount of traffic being transmitted over broadband networks today, the demand for higher throughput access is growing as well. The question is- How can service providers roll out high-speed, high-quality broadband access so that they can offer affordable service to consumers?

'Last mile' a term used by telecommunications and cable industry to describe the final leg of delivery of services to a subscriber is the most challenging aspect of setting up a communication network. In our following write up we briefly investigate the technologies needed in between the consumers and the service providers, also known as 'Last-mile technologies' and the systems used to deliver these technologies at consumer door step.

A conventional communication system uses cables for linking subscribers to a distribution hub. Cable technology is a reliable and efficient means to deliver ICT services, however it is also expensive to implement in some locations such as remote rural communities. In addition, installing wires in a home environment or a new building is often a cumbersome process and usually the source of several problems. Needless to mention the 'flexibility' that wireless technologies bring with them, increased focus has been recently concentrated on the so called "no-new-wires" innovations.

Roll out of new technologies like 3G and LTE has

led to a virtual stampede of airwaves trying to reach into your buildings. It is not just the introduction of new technologies that guarantee an uninterrupted connectivity, but the end-to-end quality of a call depends on the cellular infrastructures ability to establish, maintain and tear down a voice or data call. The problem is, these signals may be unable to penetrate steel and concrete structures, leading to a decline in user experience.

To counter this, telecom equipment vendors have developed technologies such as picocells, femtocells and Wi-Fi that create small-footprint cell sites within buildings, enabling more effective coverage.

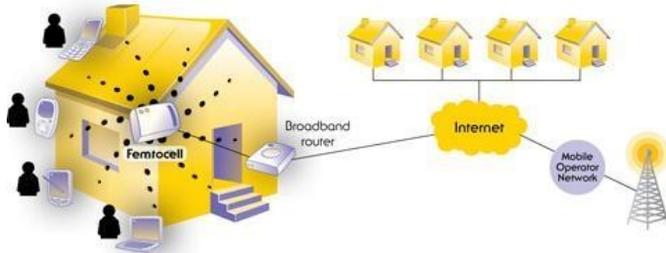
Technologies enhancing In-building user experience

A) PICOCELLS: With demand of high-speed wireless data increasing at astronomical rates, wireless carriers are challenged to find a long-term solution to this escalating issue. If experts to be believed, increased utilization of picocell base stations has the potential to handle the increasing wireless demand. Picocells are normally installed and maintained directly by the network operator, who would pay for site rental, power and fixed network connections back their switching centre.

Market research firm In-Stat forecasts the value of outdoor metropolitan picocells will jump to \$0.9 billion in 2015 due to the quantity needed to provide sufficient services for an evolving 4G voice and data market.

B) FEMTOCELLS: If you ever had trouble getting a network for your home, you could soon take matters into your own hands. Instead of relying on an overworked base station, consumers may be able to have their very own base stations inside their homes.

Called, Femtocells, these miniature cellphone base stations are small access points that can be bought and once installed at your home, it will have a secure connection to the service provider's network.



Source : Small Cell Forum

C) Wi-Fi: The name that immediately comes to mind when we talk about wireless broadband is Wi-Fi. The recently certified IEEE specification 802.11n or 5G Wi-Fi delivers up to gigabit speeds of connectivity with 6 times more power efficiency than the previous generation of Wi-Fi. It allows users to stream digital content between devices faster and by increasing signal range to overcome some of those 'dead spots'.

Technologies discussed above are "just a last mile" technologies and they need significant backhaul capacity or the delivery systems or backhaul to provide users with constant connectivity. As mobile operators evaluate alternatives to backhaul bottlenecks, several considerations arise, primarily cost, capacity, availability & flexibility Let's reflect on the various delivery systems available.

Existing 'Last Mile' Delivery Systems

Looking into the backhaul options, operators can choose one of three physical mediums: **copper, fiber or microwave.**

Last Mile Delivery Systems	Traditional Backhaul Technology	New Backhaul Technology
Copper	TDM	xDSL
Fiber	SDH/SONET	GPON
Microwave	GHz (7,15,18,23)	Millimeter Waves

xDSL: XDSL is the term for broadband access technologies that provide internet access by transmitting digital data over copper cables. Here x signifies that there are various flavors of DSL that provides always-on, high speed data services to residences Add businesses. Lower rate xDSL (up to 1.5 Mbps) is gaining popularity in the residential market while High performance xDSL (up to 52 Mbps) targets business and high-end users.

GPON: Even though today's well deployed XDSL solutions can satisfy bandwidth demand but are limited to the restriction regarding distance. Hereby, the suitable solution for high bandwidth demand with a long reach can be met by bringing optical fiber to every home. Passive Optical Networking or PON is an access network based on Optical Fiber to provide virtually unlimited bandwidth to the subscriber. While there are multiple PON standards available, GPON is viewed as the optimal technology for building access networks.

Millimeter Waves: Microwave enjoys the advantages of superior flexibility, durability and faster time to deployment that lead to lower total cost of ownership (TCO) and faster time to revenue than its other alternative. In addition to traditional licensed microwave technology (6-42 GHz), we now have millimeter waves which is a line of sight solution and can be deployed in dense urban areas.

Free Space Optics: Free Space Optics is a line-of sight which uses LASERS and Photo detectors to provide optical connections between two points without the fiber. FSO can transmit data, voice or video at speeds capable of reaching 2.5 Gbps.

With all the Technologies at place, delivering five bars of the network both outside or inside buildings lies at the core of operators strategy so as to retain their customers and ensure their brand isn't devalued.

3G failed the litmus test; Will 4G go 3G's way???

Introduced with much fanfare around 18 months ago, 3G services promised major performance enhancements to existing mobile services, along with the introduction of new services including video telephony, multimedia and enhanced user experience. But as promised 3G services have so far failed to garner adoption and win customers heart amid complaints about slow speeds and patchy connectivity. Of India's 900 million mobile connections about 33 million are 3G subscribers which is less than 4% of the total telecom subscriber base. When compared globally, according to venture firm Kleiner Perkins Caufield & Byers (KPCB) Internet Trends Report 2012, while India ranked eighth globally in terms of absolute number of 3G subscribers at the end of 2011 Q4, its 3G penetration rate of 4% was worst on a list of to 30 countries in terms of users. Similar fast-growing economies like Indonesia (11%), South Africa (21%) and Philippines (11%) had better penetration rates.

RANK	COUNTRY	3G SUBSCRIBERS (MILLIONS)
1	USA	208
2	Japan	122
3	China	57
4	Korea	45
5	Italy	44
6	UK	42
7	Brazil	41

Source :
Wireless
intelligence

Reasons for Sluggish 3G Adoption

A) High Spectrum Base Prices

Referring to the overall weak off-take of 3G in India, union communications minister Kapil Sibal had said earlier this year that "3G has not delivered because they paid such huge prices for the spectrum and there is no liquidity in the market for them to invest in the infrastructure and the devices to deliver 3G, for which 2G was

successful and 3G was not successful".

Operators paid a whopping US\$14.6 billion in May last year to secure 3G spectrum

B) Lack of Compelling Applications

Uptake of 3G services has been slower than expected as majority of the mobile subscribers mostly use their phone to make calls. To drive 3G usage, operators need to encourage more intensive data consumption. The ratio of data to voice subscriber consumption in India stands at 8:92. In comparison, the split between data and voice is nearly 60:40 in Europe, 35:65 in the US, and 40:60 in Japan and Korea. This is primarily because of the lack of compelling applications requiring 3G speeds.

C) Costly Services

Another major reason is the lack of low cost 3G handsets and high prices of 3G service as a whole. Currently, operators are trying to induce adoption of 3G among masses by slashing prices of 3G subscriptions. Airtel started this trend, followed by Reliance communications, Idea and Vodafone.

Will 4G Adoption Mirror 3G???

Undoubtedly, it is too early to say much about 4G adoption per say, let us see what future hold for it. In comparison to 3G, 4G is born in a completely different world of demand. Smartphones, mobile broadband, applications didn't exist when 3G was launched. Moreover the way customers use mobile broadband applications is clearly different today than were the case when 3G was being introduced. This will act as a plus point for 4G but still in India it will remain niche for at least 12-18 months with a noticeable pick up later. Now, what needs to be seen is whether 4G will bring with it a whole new experience or will it simply be a 3G experience albeit with more bandwidth.



■ Making Calls should be free urges Kapil Sibal

Addressing the CII broadband summit, Sibal said that talking to each other should not be taxed. "There should be no charge on voice. Customers should gradually be charged only for data services and not for making calls. He said that broadband has a huge potential to empower the people of the country and has become essential to the lives of the people. "The government is investing around Rs 35,000 crore on various broadband related projects which will create a secondary market of around Rs 3 lakh crore", Sibal said.

■ TRAI limits processing fee on top ups

Telecom Regulatory Authority of India (Trai) recently said that the processing fee charged on top-up vouchers should not exceed 10 per cent of the value of the coupon or Rs 3, whichever is less. At present, processing fee charged for top-ups of Rs 20 and above is Rs 3, while for top-ups below Rs 20, it is Rs 2. Processing fee is included in the MRP of a recharge coupon used by prepaid mobile service users in the country. Around 95 per cent of mobile phone users in the country are estimated to be prepaid users and a large number of them recharge with lower value vouchers.

■ Ericsson To Build Wi-Fi for RIL

Reliance Industries Ltd. (RIL), the only company holding the pan-India Broadband Wireless Access (BWA) spectrum, has signed a deal with Ericsson AB for building and integrating WiFi with its 4G network. Sources who are part of the deal claimed that this would gain ground in Mumbai and Delhi initially and may later reach out to other cities after the launch. Ericsson, based on this deal, will set up around 200 WiFi hotspots.

■ NSN sells IPTV Assets to Accenture

Nokia Siemens Networks has closed the sale of IPTV assets to Accenture (NYSE: ACN). The divestment is part of Nokia Siemens Networks' strategy to focus on mobile broadband and services. A total of 17 employees are joining Accenture from Nokia Siemens Networks. Terms of the transaction were not disclosed. Accenture said the newly acquired IPTV software, assets and capabilities would be part of its video solutions business that helps companies launch video services at a low cost.

■ Nokia sells mapping services to Oracle

Nokia Oyj has agreed to give Oracle's customers access to its mapping products, as the mobile phone company seeks to expand its location services business. Financial details of the deal were not disclosed, but Nokia said Oracle users would licence Location Platform from Nokia for use in Oracle applications.

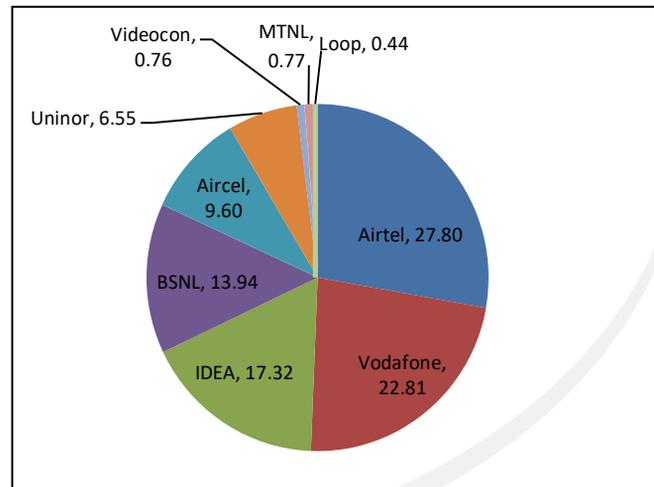
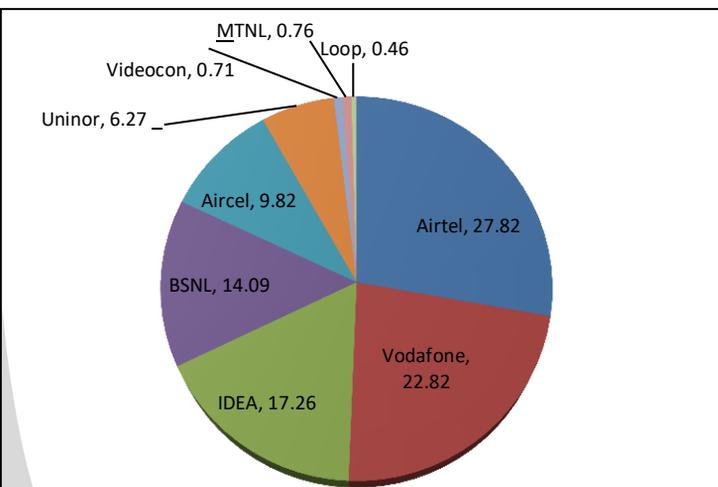
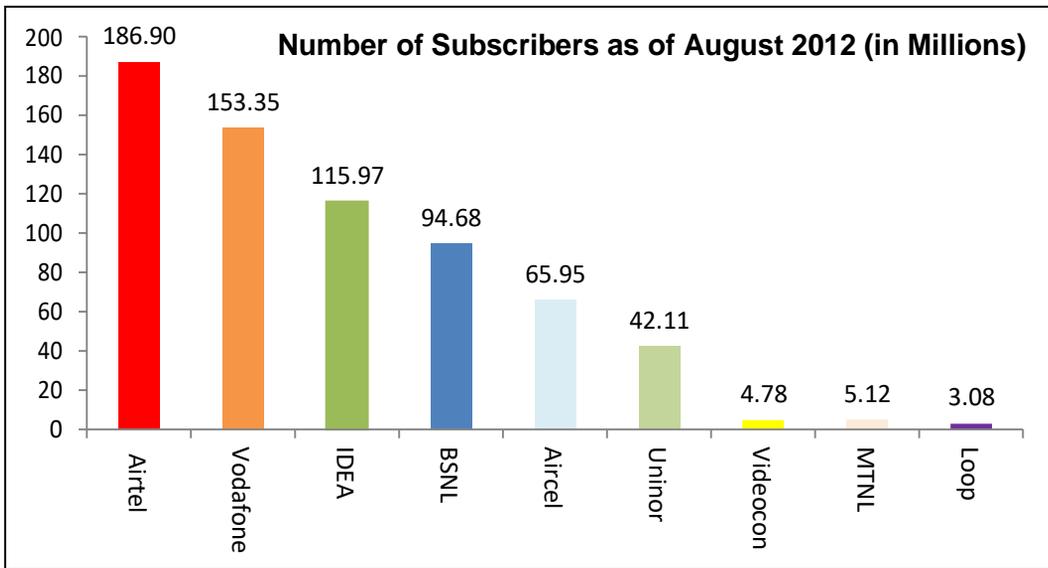
■ Apple's iPhone 5 infringes patents, Samsung says

Samsung says Apple's iPhone 5 infringes its patents, escalating a global fight over mobile devices after winning a court order lifting a ban on sales of the Galaxy Tab 10.1 tablet in the US. "As soon as the iPhone 5 was available for purchase, Samsung began its investigation of the product," the company said in its court filing yesterday. The iPhone 5 infringes two standards patents and six features patents, Samsung said. The world's two biggest makers of high-end phones have accused each other of copying designs and technology for mobile devices and are fighting patent battles on four continents to retain their dominance in the \$US219 billion global smartphone market.

GSM subscriber base declined by 7.1 mn in August 2012

Highlights

- Total No. of GSM subscribers as of August 2012: 671.95 million
- The GSM Subs declined by 7.1 million in August 2012 (1.05% decrease from previous month)
- Maximum GSM subscribers addition in the month of August by - **Aircel** – 0.79 million
- Maximum GSM subscribers addition in the month of August in – **Chennai** – 1,07,131



Group Company wise % market share (Subscribers) as of August 2012

Group Company wise % market share (Subscribers) as of July 2012

MobileComm In-Building Solutions: Enhancing Every Subscriber's Call Experience

Best Cellular Networks in the world are known for excellent coverage, high call success rate, low or no call drops and best voice quality. Complex nature of urban terrain and concentration of mobile users inside high raised building complexes make it difficult to achieve best quality factor. MobileComm is pioneer in providing turnkey in-building coverage enhancement solution to all leading mobile network operators. In-building Coverage enhancement projects in major public utility buildings like airports, underground metros and shopping malls for multi-operator, multi-band and divergent systems using advanced equipment and devices are Mobilecomm's hallmark. Proven quality of services made Mobilecomm a premium reliable partner of major cellular operators.

Our IBS core competencies include:

- a) Master Planning
- b) Installation
- c) Design
- d) Support Services

To know more about MobileComm In Building Portfolio and how we work, contact – atul.deshpande@mcpsinc.com

Yet Another Successful Day with would-be Engineers

MobileComm has been mass educating Engineering students of various reputed universities and this time it was none other than a leading educational institution, **Sharda University** based out of lush green Delhi NCR.

The main intent behind the workshop on 'Window to Telecom' was to allow better understanding of the demands of telecom industry among would be engineers. Around 200 final year ECE students were mass educated in a day workshop to further understand and explore the opportunities in wireless industry.



Lessons From Travelling the World

- By Benny Lewis

Eight years. That's 416 weeks, or almost 3,000 days. This is the amount of time that I have not had a fixed home; moving to a new country, culture and language every few months and taking absolutely everything I own with me. It has been a significant percentage of my life, and it's still long from over.

I thought it fitting to share 29 of these revelations with you of things that I have learned on this journey. Many of them are about life in general, but these are actually my observations after meeting many people from all over the world:



1. **Everyone everywhere basically wants the same thing:** Everyone just wants validation, love, security, enjoyment and hopes for a better future. The way they verbalize this and work towards it is where things branch off.
2. **Deferring your happiness to the future is a terrible idea:** We can learn to be content with what we have, live in the now, all while enjoying the progress and changes we are making.
3. **You will NEVER win the lottery. Be practical:** The universe owes you **nothing**, you owe it to yourself to be the master of where your life ends up.
4. **There's no such thing as destiny. This is excellent news:** If you are determined enough there are many opportunities in life that are totally achievable with minimal cash, regardless of who you are.
5. **Seek out people with different beliefs and views of the world to yours and get to know their side of the story:** Don't take responsibility for convincing the world you are right. It's important to acknowledge that maybe **you** are actually the wrong one.
6. **Living a good life is the best way possible to convince people:** Enough words and enough arguing. Just live by example and soon you'll have people on your side when they see your **results** and how passionate you are.
7. **Nobody has it all figured out:** Almost **everyone has problems** and puts on a brave face. Never dismiss them as having it easy if you don't know the **entire** story.
8. **There's no shame in saying "I don't know":** Don't dance around the issue - just say *I don't know*. Honesty is way smarter.
9. **More money will NEVER solve your problems:** Everything that is wonderful about life doesn't cost a penny, and the rest is way cheaper than you think it is.
10. **Possessions own you:** Look at the real reason you want to buy more expensive crap and realize that it all comes down to validation from others in one way or another. The less you own the better.
11. **Get outside and do something with other people:** The world that is worth experiencing is not in books or on TV or computer screens. It's with other human beings. Stop being shy and get out and meet them!
12. **Take your time :** Enjoy every bite of food, walk at a slow pace and take in your surroundings, let the other person finish their side of the conversation while you listen attentively, and stop in the middle of your day, close your eyes or look at nature and become aware of your breathing.

Remaining Lessons will be covered in the next issue. Stay Tuned!!!



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