LISTENING TO BUSINESS, APPLYING TECHNOLOGY

GALAXY

# TechTalk
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## January 2016

# What Facebook is Doing to Push Free Basics in India

It's hard to miss Facebook's aggressive advertising campaign for Free Basics, the company's controversial program to bring millions of unconnected Indians online that detractors say offers only a limited version of the web.

Facebook's hard-nosed campaign comes days before the December 30 deadline for comments on a consultation paper about zero-rating released by the TRAI. Faced with a temporary ban on its service — the TRAI asked Reliance to shut down Free Basics till it concludes whether it violates net neutrality or not, Facebook is pulling out all stops. Facebook has been spending hundreds of thousands – if not millions of dollars on hoardings across Indian cities and full-page newspaper advertisements trying to drum up support for Free Basics, which, it claims, is crucial for "digital equality" in India.

Free Basics, currently available in 37 countries through Facebook's partnerships with dozens of telecom operators (Reliance Communications in India), allows users to access a limited swath of the internet including Facebook, education websites, healthcare information and employment listings without paying for a data plan. This limited set of services, says Facebook, is a bridge to the full internet for people who can't afford data. "When people have access to free basic internet services, (they) quickly overcome the digital divide," Facebook CEO Mark Zuckerberg in an opinion piece in a leading daily.

Free Basics, which began as Internet.org, was first launched in India in February as a closed platform with services hand-picked by Facebook. Facing intense criticism for playing gatekeeper, the social network rebranded Internet.org to Free Basics, and opened it up to any service that wants to sign up as long as it meets certain technical requirements.

India is Facebook's largest market outside the US. With over 500 million Indians expected to come online by 2017, getting Free Basics approved in the country is crucial for Facebook.

# Reliance Jio to Give More Power to 4G Services

Mukesh Ambani's much-touted 4G telecom services was launched in India. Even though it is currently restricted for Reliance employees and is likely to go public by March 2016, it will be an ambitious project for Reliance and also expected to give more power to the existing 4G services in the country.

The 90,000-odd employees of the group went live on the voice-over-LTE (4G) network from 28 Dec. 2015, the 83rd birthday of Reliance group founder Dhirubhai Ambani, according to the company.

Post the commercial launch, Reliance Jio Infocomm will offer low-cost 4G devices (under 'Lyf' brand) costing as low as Rs. 4,000 and a host of services along with the regular voice and data. These will include a big collection of music (Jio Beats); around 200 television channels with back-up (Jio Play) and movies (Jio on-demand), said the company. At the commercial launch, the company will reportedly come bundled with a host of SIM cards and large data-pack plans.

The telecom entry is one of the group's most ambitious project to date after retail. The telco has pumped in nearly Rs. 1 lakh crore into the business. As the competition is fierce in the 4G space, analysts believe that Reliance's entry will bring down mobile and data prices further in India which already boasts of giving the world's cheapest tariffs. The group said it will bring products such as Jio Play which will allow users to watch HD TV anytime, anywhere, on any device.

# The Future is Now

## The Digital Makeup Artist – 3D Print Makeup on Your Face in 30 Seconds

Back in May 2015, a woman named Grace Choi unveiled a device that could forever change the way women (or men) purchase and apply their makeup. Called Mink, the machine is able to rapidly print all sorts of makeups from lipstick to eye shadow, nail polish and more. The printer, which should be priced at around $300 when it hits the market, utilizes a base makeup substrate along with an ink to produce pretty much any color makeup the user desires. Although a firm launch date has yet to be announced, when the product does come to market it will be very interesting to see how well it is received.

While waiting for Mink, women may have yet another incredibly innovative option when it comes to makeup, and yes it also uses 3D printing technology. Stockholm, Sweden-based skincare company, Foreo, has just unveiled MODA, 'the world's first digital makeup artist'.

MODA will supposedly integrate cutting edge 3D printing technology with the most advanced real-time facial mapping software on the market. It all starts with a simple, intuitive mobile application where the user can choose from a library of dozens of pre-set looks. Once chosen, the look can be previewed on an image of the users face, and if they like what they see, they simply place their face into the printer, it scans their facial geometries and then 3D prints the makeup onto their skin in just 30 seconds. The website even claims that the mobile app will allow users to browse and select from a library of celebrity makeup looks, replicating the hottest red carpet styles onto their own faces. Can't find a look you think goes with your facial features? Then the application will do so for you. The 'Uniquely You' mode will suggest looks based on an individual's facial geometries.

The makeup is applied in three steps, using 2,000 very fine nozzles which are able to simultaneously adjust with an accuracy of 40 microns. The first step is a primer which ensures long-lasting coverage as well as protection from UV rays via its SPF formula. The next layer is a foundation which provides highlighting and contouring to the wearer's face. The final 3D printed layer is high-impact color for the cheeks, lips, and eyes.

The company has yet to release any information on what a machine like this will cost, or when it would become available. Once Foreo actually releases this product, it will be a complete makeup revolution.

## Laser Hoop "From the Future"

Hair care has become a cult. Women are experimenting with shampoos and masks, buy expensive combs and counted every fallen a hair. But if all of these manipulations do not provide the desired length and thickness, always have a plan "B": the strand may be extended using ready products available in the shop hairdressing supplies. But for men head of hair loss turns into a real catastrophe. For those who are not ready to try hairstyle Bruce Willis, and have a tidy sum to spend to try preserving the vegetation, here comes this laser hoop.

Technology is increasingly helping people in the struggle for beauty. In particular, for the beauty of hair. The latest invention of Hairmax, an American company specializing in the science of hair growth, is a laser hoop named Laser Band 82. According to the company, this device is able to solve the problem of hair loss in 90 seconds a day.

This new enhanced hands-free laser medical device delivers nourishing laser light to energize and revitalize your hair follicles and regrow your hair. The unique new cradle design incorporates 82 medical grade lasers and patented hair parting teeth, which parts your hair during treatment for maximum laser light delivery to your follicles to achieve optimal results. Exposure to cold laser should accelerate blood flow, providing better nutrition of the hair roots. Accordingly, they should grow faster and fall out less.

The procedure takes only 90 seconds per day, so the developers call it "the fastest cure for hair loss." However, the effectiveness of the gadget worth nearly $ 800 is difficult to judge even though Hairmax promises a five-month money back guarantee if the buyer is not satisfied with the result.

It is interesting to note that despite the fact that medical treatment laser is actively spread in modern cosmetology (from wrinkles and scars to depilation), how this method affects the growth of hair is still not exactly known. The main thing is that a possible "miracle remedy" at least does not violate the principle of "do no harm."

# Technology Focus
## Taking Advantage of Storage Automation
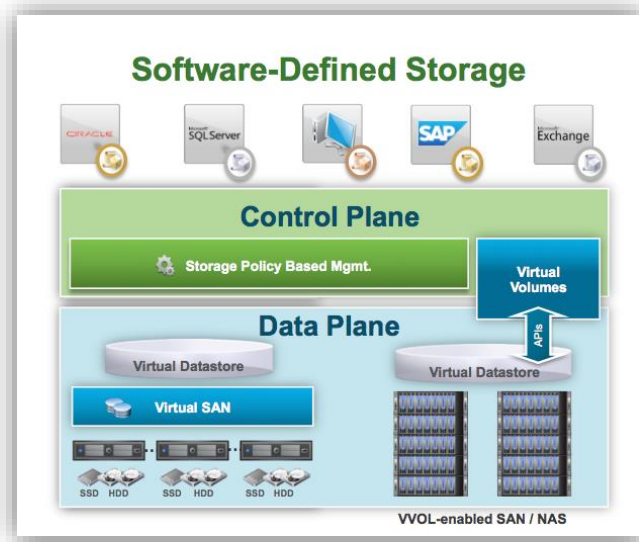
The amount of data being created is soaring, putting pressure on data centers to keep pace with growth and application support demands. At the same time, IT is expected to become more agile and responsive to the needs of the business. Storage infrastructure is a foundational component that allows the IT professional to keep up with these growth elements and meet organizational expectations. The problem is that the manual nature of provisioning storage and altering the performance attributes of that storage is causing cracks in the foundation. Storage automation is a key enabler for infrastructure to continue the organization's growth and allow IT to meet expectations.

### What Is Automation?

When designing a storage infrastructure to help IT meet expectations and enable growth, IT planners are presented with a new challenge: determining what, exactly, constitutes storage automation. Some storage vendors claim to be automated because they can transparently move data between different tiers of storage based on access frequency. Other vendors claim that they are automated because they provide some form of storage quality of service (QoS). To some extent these vendors are correct, but data placement and QoS are not complete automation. Full automation requires that the storage infrastructure be scriptable so that these scripts can enable the IT professional to integrate the system with other components of the data center.

### The Goal of Storage Automation

The goal of storage automation should be to perform the provisioning of storage and the adjustment of storage performance in a predictable, repeatable manner that can be done at scale, often outside of the storage system's graphical user interface (GUI). "Outside" could mean that storage management tasks are performed from within VMware vCenter/vRealize, OpenStack's Horizon, any other management GUI, or the command line. For example, automatically provisioning a virtual machine (VM) should allow for setting the storage characteristics at the time of creation. A script or VMware's vRealize interface accesses the storage system's API to enable the setting of these characteristics. These adjustable features cover the spectrum from capacity and performance to data protection and security. The result of storage automation should be a significant reduction in administrative time as well as a reduction in errors.

### Universal Automation

Some legacy vendors have tried to add automation-enabling APIs to their storage systems as an afterthought. The problem is that afterthought automation typically leads to unique commands or interfaces for each environment. Another essential attribute of automation is that it should be universal. In other words, one set of scriptable commands should work across a variety of platforms and environments. The right storage infrastructure can help you think up the stack to optimize your applications and workloads. In addition, the right storage APIs enable you to automate down the stack, abstracting complex management tasks from users and rendering storage an easily programmable resource. All of this will increase capabilities and drive your business.

### A Simple Path to Automation

Part of this "scriptable from the ground up" philosophy can be seen in how easy the environment is to administer and to script. Ideally the system's GUI will be created using the API set and will show the corresponding commands that it is executing as it responds to user interaction. Showing the commands as they run allows a storage administrator to get started on the automation journey by copying and pasting API calls to quickly script myriad tasks.

### Conclusion

Automation is a key element of creating a storage infrastructure that can keep up with the growth of data and applications in the environment, enabling the storage infrastructure to respond to the needs of the business by making the IT staff more productive.

**Please call Galaxy's Storage Consultants to help you on the path to storage automation.**

# Tech News
## Now, IT-Enabled Tool for Pregnant Women, New Mothers

Infusing more technology-driven initiatives into healthcare, the ministry of health and family welfare recently announced a mobile service that will deliver audio messages to families about pregnancy, child birth and child care. Through 'Kilkari', the messages will be delivered every week. Union health minister JP Nadda said that each and every pregnant woman and new mother, registered in the Mother and Child Tracking System (MCTS), would receive the weekly voice messages relevant to their stage of pregnancy or age of the infant. MCTS is an online system that monitors and tracks all pregnant women through their gestation period and immediately afterwards.

Nadda said that the 72 messages would reach the targeted beneficiaries from the 4th month of pregnancy until the child is one year old. On an average, the duration of each message would be two minutes. "Such messages will empower and educate women and parents to help create a better environment for both maternal and child health," he said, adding that the service will be provided free to the beneficiaries. In the first phase of implementation, the messages would be sent to the pregnant women and new mothers from Jharkhand, Odisha, Uttar Pradesh, Uttarakhand as well as parts of Madhya Pradesh and Rajasthan. The messages will be delivered in Hindi, English and Odiya languages in the first phase. It will later be expanded to other languages as the initiative is extended to the rest of the country. Nadda claimed that the initiative would benefit over 2 crore pregnant women and infants every year.

## Wipro Buys US Firm Viteos for $130 Million

**Wipro plans to leverage Viteos' licensing platform to launch solutions across other segments of capital markets including mutual funds, pension funds and insurance firms that buy large portions of securities for money-management purposes.**
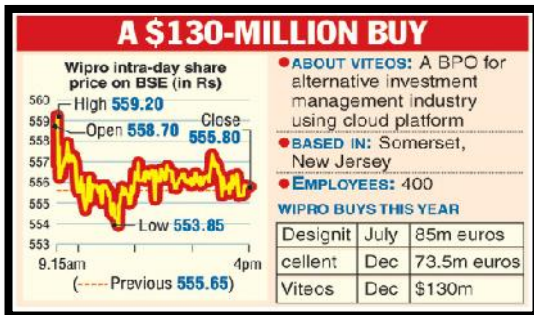
Viteos, which earned $26.5 million in revenue last fiscal year with roughly 400 employees, will retain its brand identity to strengthen its presence among clients. Wipro Ltd has agreed to buy Viteos Group, a securities processing and fund administration services provider, for $130 million in an effort to expand its portfolio of services to financial companies.

The 12-year-old New Jersey-based Viteos provides services including processing, reconciliation of trade, settlements and customer data across asset classes and currencies for investment banking clients in the US, Europe and Asia.Wipro plans to use Viteos's licensing platform to offer services to buy-side companies, a term used by investment bankers to refer to institutions that buy investment services such as mutual funds, pension funds and insurers. "Viteos is definitely the type of acquisition Wipro BPO needs to be making to make the shift to more "as-a-service" based solutions," said Phil Fersht, chief executive of US-based HfS Research, an outsourcing-research firm.

"However, the litmus test for Wipro will be how successfully it can scale up the Viteos software platform with its existing and new clients." Wipro, India's third-largest software exporter, already offers many of these solutions to its clients on the sell-side of capital markets. They, in turn, sell investment services to asset management companies.The acquisition reflects a broader shift in India's software outsourcing industry towards building an arsenal of intellectual property-led high-margin software platforms rather than relying on an army of engineers to offer technology solutions to clients.

## Fujitsu Spins Off Its PC and Mobile Divisions

Fujitsu is planning to spin off its PC and phone businesses by February 2016 in an attempt to create more efficient businesses that can better compete in the highly competitive markets. The spinoff will create two new companies: the first, Fujitsu Client Computing Limited, having its laptop and desktop divisions; the second, Fujitsu Connected Technologies, will contain its mobile phone division. Fujitsu will continue to own both companies at present, the company said.

According to experts, it has become too difficult to carve out its own niche within both markets—and without something unique to offer, its profit margins have presumably deteriorated. "With the ongoing commoditization of ubiquitous products, mainly of PCs and smart phones, it has become increasingly difficult to achieve differentiation, and competition with emerging global vendors has intensified," the company said in a statement. Other PC and phone makers reeling under similar pressure and are chalking out survival strategies. Hewlett-Packard, for example, completed its own spinoff of its PC business this past November. Recent reports have suggested that Fujitsu, Toshiba, and Vaio, which was previously part of Sony could all merge their PC businesses to form one more formidable force. According to an article in The Verge, Japan's ailing PC makers Fujitsu, Toshiba, and Vaio (Sony) are now looking to consider joining together instead of failing apart.

Fujitsu said it had instituted each of the "company splits" to "clarify management accountability, to enable swift management decisions, and to pursue comprehensive efficiency by creating independent companies for the PC business and the mobile phones business, respectively". It also wants to establish an integrated system covering all aspects of research, development, design, manufacturing, sales, planning, and after-sales services, it said.

# Special Focus

## Everything Connects to Something: Make Sure It's the Right Thing with a Smarter DNS Infrastructure.

It's the season for predictions. What will 2016 bring in IT? Consulting firms, IT vendors (F5 included), and general web pundits will happily give you their predictions for business, consumers and the resulting IT trends they drive. Some of them will be accurate to the point of prescience, others will be wildly off the mark. Many will be obvious to even the least curious IT professional, but there is always the chance for the unexpected – such as the rise in container adoption.

And that is where the IT team come in. Because if business and IT was as simple as just looking at an amalgam of predictions and then following their advice, then life in IT would be dull. Unexpected things are going to happen. Different attack vectors, different consumer trends, emerging technologies. Acquisitions, mergers, changes in direction and the need to be fast to market with new services all demand an infrastructure, but more importantly, a mindset that is ready to change and adapt to the needs of your customers.

Despite many views on IT predictions I do feel honor bound to read the various predictions out there. Wearables, virtual reality, machine learning, artificial intelligence, autonomous transport, lightsabers (ok, the last one is actually just a more elegant weapon for a more civilized age). In summary: lots of cools stuff, all of which will need to be interconnected to realize its full potential (except the lightsabers, although the Star Wars universe unaccountably seems to lack WiFi). It feels as if the days of anything being isolated and unconnected are over and gone (at least for now).

In the world of connected everything managing the connections from client to server is an essential component of any service. Because the client needs to connect to a service that is:

- **Safe** – not a malicious man in the middle, compromised or completely fake (IoT phishing anyone?)

- **Working** - not over loaded, failed or malfunctioning

- **Performant** – this might mean geographically near, or simply having enough capacity to service the connection, or being able to use the optimal connection style for the client.



Protect and scale your DNS infrastructure while maintaining availability for applications.
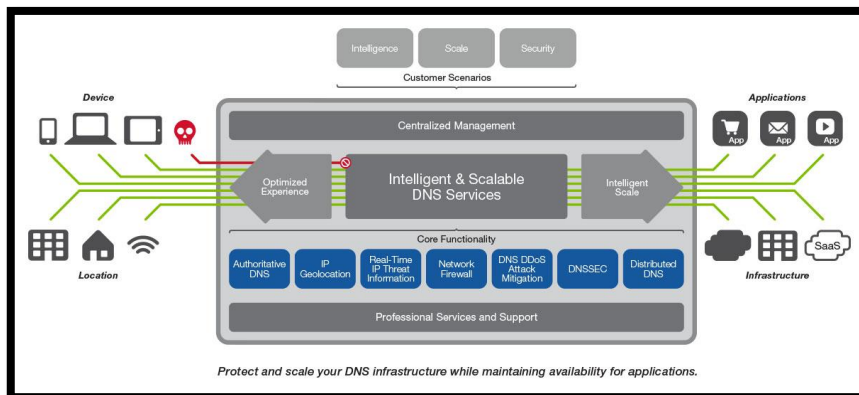
So how are we going to do all this? A key component is going to be DNS. DNS is the system that allows clients to find and connect to servers. Without DNS we are back to the world of hard coded IP addresses – which is a place no-one wants to go. To an extent, a DNS server has a simple job – it (mainly) answers questions for name resolutions – e.g. "what is the IP address of www.f5.com?" The trick is to make sure it gives you the best answer to any question, and one you can rely on. Your DNS layer, as much as any part of your infrastructure, needs context and credibility. I'm betting you rarely guess an answer to an important question. I'm also betting you don't you want your DNS server doing it either.

The context comes from knowing where the client is coming from (although there is some extrapolation here, since most requests will come from other DNS servers), and the state of the potential resources that the client could connect to. You're going to need to have accurate and relevant checks on availability and capacity to decide where to send a client. You might need to know the nearest physical location to the client and the network they are on. Since you can configure every client type to ask for a different variant of the address (e.g. "what is the address of mydevicetype.mycompany.com?" you can provide an individual, optimized endpoint for each device type (possibly using an advanced application and network proxy like a BIG-IP).

The credibility comes from the ability to cryptographically sign the DNS response – using the same kind of certificate based system that powers TLS. It's called DNSSEC. With a signed response, you can be assured that clients (whether these are devices, VR helmets or the car transporting you) are connecting to where you want them to, not to where someone else wants them to.

So, if you want to be sure that your clients are connecting to the right places, then build a DNS layer that has context and credibility. You might even want to take a look at F5 BIG-IP DNS to do it with.

# About Galaxy

- One of the most respected Information Technology integrator of the best of breed products and solutions for Enterprise Computing, Storage, Networking, Security, Automation, Application Delivery, ERP and Business Intelligence.
- An ISO 9001:2008 organization, founded in 1987.
- Committed team of over 200 skilled professionals.
- PAN India presence.
- Trusted IT services provider to more than a 1000 companies.
- Experienced consultants certified on a wide spectrum of technologies.
- The Galaxy Technology Innovation Centre, a state-of-the-art integrated hardware and software laboratory, allows customers a hands-on look at the latest storage, backup, security, application delivery and virtualization technologies.
- Customer list includes many of India's leading corporations, banks and government agencies.
- Four business units collaborate to provide a full spectrum of services and ensure smooth projects. Together, they provide our customers with truly end to end professional IT Services.

| Galaxy Business Solutions | Galaxy Technology Services |
|---|---|
| System integrators of best of breed technologies to deliver solutions to the problems and challenges that confront enterprises | Skilled pool of resources consistently maintains and delivers enterprise class service levels |
| **Galaxy Network Solutions** | **Galaxy BI Consulting Services** |
| One of India's most trusted active and passive networking specialists | Helps organizations to deliver and leverage business intelligence to create substantial business impact |

**VISION**

*"To become the most preferred technology solution partner by listening to our customers, anticipating their needs and providing reliability, flexibility, responsiveness and innovative products and services. Achieving market leadership and operating excellence in every segment of our company."*

**MISSION**

*"Total customer satisfaction; through innovative insights, quality service and excellence in technology deployment."*

**VALUE PROPOSITION**

*"We understand the need of a common vendor for all your IT needs. Hence, we are committed to long-term partnerships by delivering on our commitments."*

# MD Speaks

"*On behalf of Team Galaxy, I wish all our readers a very happy, prosperous and safe 2016!*

*Last year, as predicted, we saw tremendous growth in Mobile Computing, Analytics and Security across almost all industries.*

*This year will see continued growth in these areas, but there will be some significant additions to this list. Wearable devices are now here to stay. After an initially lukewarm response to Google Glass and Apple Watch, a comparatively smaller and unknown Fitbit seems to have caught the imagination of all. I think this is just the impetus needed for wearable devices and 2016 should see a larger variety covering a lot more aspects.*

*3D printing is also poised to take off in a big way. With more and more materials available and the prices going down considerably, I feel that 2016 will be the year when it will be commercially viable to use this technology for products that can be actually used, rather than just prototypes.*

*Machine learning will be widely used to provide next generation security solutions that can actually outsmart hackers. Some action in this space has already been seen in Splunk's acquisition of Caspida but I believe a lot more will come in 2016.*

*Apart from these a few other technologies like Fast Data, Software Defined Anything (or everything), Cognitive computing & Natural Language Processing are showing a lot of promise, but the costs and risks need to come down significantly before they can be widely adopted. Though I personally don't think this would happen in 2016, who knows? Technology has this habit of often proving us humans wrong!"*