GALAXY

TechTalk
Issue 33
March 2015

LISTENING TO BUSINESS, APPLYING TECHNOLOGY

Budget 2015: It's Digital All The Way

Through its landmark initiatives such as 'Digital India' and 'make in India', the current government has already demonstrated the importance of digital technologies for industries to sustain and grow. In the Union budget 2015-16, IT industry expects the finance minister to go a step ahead, and introduce measures that will enable businesses to drive digital initiatives for sustaining long-term innovations in the country. According to Partha Iyengar, vice president and head of Research – India, Gartner, "The biggest expectations for the IT industry will be to put teeth behind the two slogans of Digital India and Make in India. A manufacturing revival in an IT savvy India would be a tremendous multiplier for the Indian IT industry, unlike in China, where manufacturing took off without too much IT support, and China is only now (last 2-3 years) starting to focus on IT as a white-collar productivity effort. This can be a game changer for India in inevitable India vs China comparisons and a huge boost for Indian competitiveness on the global landscape."

The Digital India initiative has huge ramifications for the Indian IT industry and Indian industry overall as well. It will bring better access to the vast areas of untapped rural India, which can drive unprecedented economic growth across industry, by allowing companies across all industries to tap the elusive bottom of the pyramid economic opportunity, believe experts.

On the growth front, Sanjay Rohatgi, president, Symantec India also believes that the upcoming budget 2015-16 is an opportunity for the new government to accelerate the reform process unveiled over its first eight months in the office. While the growth rate has already started improving and the forecast for the next year is even better, we need a blue-print for sustained and sustainable growth over the next decade or two. It should focus on simplification, predictability and consistency in overall tax regime even as it goes for fiscal consolidation and broadening the tax net.

Red Hat Launches Red Hat Enterprise Linux 7 Atomic Host

Red Hat, Inc. the world's leading provider of open source solutions, recently announced the general availability of Red Hat Enterprise Linux 7 Atomic Host, an operating system optimized for running the next generation of applications with Linux containers. Red Hat Enterprise Linux 7 Atomic Host provides all of the components necessary to easily package and run applications written for Red Hat Enterprise Linux 6 and 7 as containers.

As monolithic stacks give way to applications comprised of micro services, a container-based architecture can help enterprises to more fully realize the benefits of this more nimble, composable approach. Based on the world's leading enterprise Linux platform, Red Hat Enterprise Linux 7 Atomic Host enables enterprises to embrace a container-based architecture, reaping the benefits of development and deployment flexibility and simplified maintenance, without sacrificing performance, stability, security, or the value of Red Hat's vast certified ecosystem. An application architecture based on Linux containers requires not only the tools to build and run containers, but also an underlying foundation that is secure, reliable, enterprise-grade, with an established lifecycle designed to meet the ongoing requirements of the enterprise over the long term. These requirements include mitigation of security concerns, ongoing product enhancements, proactive diagnostics, and access to support.

The Future is Now

The Future of Voice-Activated AI Sounds Awesome

For decades science fiction movies have been imagining the future as one where humans talk to machines just as naturally as they speak to family and friends. In reality, however, using voice to interact with machines has been maddeningly frustrating, with Siri often mistaking "open up my email" for "look up some kale," for example. This is changing. Increasingly the experience of speaking to your mobile device elicits genuine surprise when Siri or Google Now understands your request and seamlessly executes your request. Put simply, voice recognition in machines is getting very good and is going to get so good that it will completely change the way humans interact with their computing devices. The next few years in voice and speech recognition are going to be exciting. Here are some things to look forward to.

Voice recognition gets freakishly good. It used to be that voice recognition always fell short of our expectations, but there have been some recent major technology breakthroughs that have cracked the code on speech recognition. In the past 18 months, commercial speech recognition technologies have seen a dramatic 30 percent improvement. To put that into perspective, that's a bigger gain in performance than we've seen in the past 15 years combined. These improvements are in part being driven by deep learning approaches combined with massive data sets. Deep learning is a tool that is used to create systems that have very good accuracy for tasks such as image analysis, speech recognition and language analysis, among other things. Most of the companies that are viewed as leaders in this space do not yet have their platforms available for use by customers; DeepMind and Vicarious fall in this category. There are a few companies that offer APIs, which rely on deep learning. The Alchemy API is one example of a company that uses deep learning for image and language analysis. As more voice usage data becomes available, speech recognition accuracy will get better and better. This is what is known as the "virtuous cycle of AI," the more people use voice interfaces, more data is gathered, and as more data is gathered, the better the algorithms work, thus delivering dramatic improvements in accuracy.
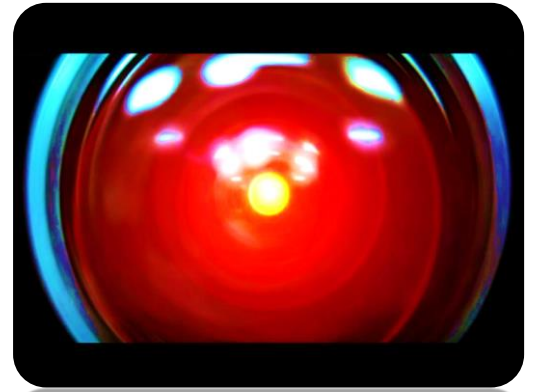
Siri, Cortana and Google Now won't be the only intelligent voice assistants. As computing devices of all shapes and sizes increasingly surround us, we'll come to rely more on natural interfaces such as voice, touch and gesture. In the past, developing an intelligent voice interface was a complex undertaking – feasible only if you had the development team of a major corporation like Apple, Google or Microsoft. Today however, due to the emergence of a small but growing number of cloud based APIs like MindMeld, it's now possible for developers to build an intelligent voice interface for any app or website without requiring an advanced degree in natural language processing.

Computers will start listening to us non-stop...like the Star Trek computer. Machines already see better than humans, recognize objects better, and can listen and hear better. Eventually they will also understand meaning better. What does a world where computers listen constantly look like? It will certainly change the way we interact with our devices. A conference room, automobile or wearable device that can listen to our conversations and understand what we need will eventually become the norm. This new world will emerge since we will all expect to have information at our fingertips at any time no matter where we are. It may seem odd now, but it won't be long before intelligent voice interfaces are built into all kinds of apps. Right now companies that are invested in the connected home (e.g. Samsung, Comcast, etc.) are leading the way, but we are also seeing other technology companies testing the waters with devices like Amazon's Echo and Jibo.

Researchers will get closer to developing generalized intelligence. As AI systems get closer to understanding the full breadth of human knowledge, they will become much better at answering all kinds of questions. Eventually, machine learning techniques will be used to help computer scientists develop a universal intelligent assistant that understands a large fraction of all of human knowledge. Human knowledge, while vast, is not infinite. In fact, researchers estimate that a corpus of 100 to 500 billion concepts or "entities" would likely begin to approach the full extent of all useful human knowledge. With deep learning techniques getting better and better at extracting patterns from massive, internet-scale data sets, many AI researchers see the steps toward a form of generalized intelligence coming into focus.

Beyond 2015? Artificial intelligence gets smarter but it won't destroy human civilization...yet. There's been a lot of fear mongering of late about artificial intelligence. While any sci-fi movie-goer can envision numerous dangerous AI outcomes – automatically setting off nuclear warheads, stopping to reboot while in auto-driving mode, or destroying us all based on an ill-fated conclusion that humanity is the root of all problems – we are far off from this dystopian reality. Today's AI systems are so far from becoming self-aware that it is not even a useful exercise to speculate when we might have to pull the plug. We will likely benefit from decades of incremental AI advances before any of us need to seriously confront the existential threat foretold by hollywood movies.

How can we prevent our domination by robot overlords? Assimilation is inevitable. Resistance is futile. Seriously, we are a long way from even being able to constructively speculate about this. Over the next 15 years, computing systems are going to get really good at many different specific human-like tasks such as understanding images, videos, language and answering questions. There has not yet been any evidence that this will lead to higher-level intelligence that could rival the human brain. Some theorists speculate this might be possible, but at this point, it is merely speculation. If higher-level intelligence does emerge from machine systems over the coming decades, we will certainly need to have a serious debate over the best way to prevent any chance of a robot apocalypse.

Technology Focus

The FREAK bug in TLS/SSL - what you need to know

FREAK is the latest security bug to be given an exciting name.

It was found by an impressive team of researchers, including some Microsofties, so it's solid research work. The bug affects TLS/SSL, the security protocol that puts the S into HTTPS and is responsible for the padlock in your browser's address bar.

The bug is known to exist in OpenSSL's TLS implementation (before version 1.0.1k), in Apple's Secure Transport, and in the Schannel TLS library that is part of Microsoft Windows.

Greatly simplified, FREAK is an attack that can be done by a "man in the middle" (someone who can listen into and change the network traffic between you and your destination server).Using FREAK, he can trick you and the server into settling on a much weaker HTTPS encryption scheme than either of you would normally accept. Basically, he gets you to use what's called "export grade" RSA encryption, a hangover from the 1990s when the US required exported encryption to be deliberately weakened. The idea was that export grade keys were just about good enough for every day, not-so-secret use, but could be cracked by superpowers with supercomputers if national security should demand it.

No-one should be using export grade keys any more – indeed, no-one usually does – but many clients and servers still support them.

Cracking an RSA key is done by a technique known as "factoring the modulus," something that is supposed to be computationally unfeasible, except in the case of export grade keys. Loosely speaking, that means you decompose the key into its public part (which is supposed to be public) and its private part (which you are never, ever supposed to get your hands on). With the private key, you can now sign traffic from your own imposter website as though it came from a trusted third party. Indeed, the team behind the original FREAK research claim to have done just that to create a fake nsa dot gov.

Being able to sign your own traffic with someone else's private key means that you can "do a SuperFish," and masquerade as someone else without producing any tell-tale certificate warnings in your victim's browser.

As far as we know, the trick doesn't work against the TLS implementations used by Google and Mozilla. So users of Chromium/Chrome and Firefox are OK. Browsers that use OpenSSL are at risk, which includes Android's now-disowned "Browser" browser, and therefore probably Samsung's derived browser known as "Internet." Likewise, Apple's own implementation of TLS, called Secure Transport, puts OS X software that uses it at risk, including Safari. Additionally, the Schannel TLS library in Microsoft Windows is vulnerable too, putting Windows software including Internet Explorer at risk. In the short term, if you are worried, try using an alternative browser. (But make sure you know how to configure it to your usual privacy standards, and how to keep it updated!).
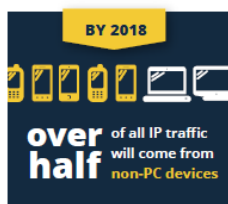
Networks Buckling Under BYOD and Bandwidth

The IT world is constantly growing and changing—and we don't just mean that in a generic sense. It's literally growing. Take, for example, the number of devices, traffic and load on your network. Demands on your network continue to skyrocket, while the proliferation of business applications, unified communications, mobile devices, and big data place an added stress on your infrastructure. Naturally, many networks are not prepared for this type of growth. All of this contributes to the challenge of maintaining uptime, performance, and service levels for your network. It's a hard truth that many network managers are learning the hard way.

Let's take a closer look at **Truth: The number of devices, amount of traffic, and load on your network is exploding.**

Bandwidth-intensive applications, like Microsoft Lync, SharePoint, and Exchange, have contributed to a global IP traffic problem. In fact, global IP traffic has increased by five times the amount it was at five years ago. Over the next five years, it's expected to increase another three times over.

In the workplace, business-critical applications and services enable users to move large volumes of data across multiple networks with ease. At home, entertainment services, like YouTube, Netflix, and iTunes, further contribute to network bottlenecks. By 2018, IP video traffic is expected to become 79 percent of all IP traffic—impacting both consumers and businesses. With so much of the modern business world being dependent on the ability to interact and transact online, this lack of bandwidth is a serious problem.

Whether its email, file transfers, or web conferences, high-quality bandwidth is absolutely and fundamentally vital to business communication. If IT teams can't pinpoint the bandwidth hogs among us, how can they be expected to prevent service degradation?

When you're dealing with an interconnected web of software and applications on your network, finding the root cause of a performance issue becomes an incredibly difficult task. Without finding the bottlenecking bandwidth hog, how can you improve performance?

Tech News

Malware-spreading drive-by attack relies on hacked GoDaddy accounts

Hundreds of hacked domain name accounts registered through GoDaddy are being used as part of a highly effective campaign using the Angler exploit kit to infect computers with malware. The attackers are using the accounts to create subdomains that shuttle Web surfers to websites hosting Angler, wrote Nick Biasini, an outreach engineer with Cisco Systems.

The owners of the accounts are usually unaware of the activity, which Cisco calls "domain shadowing," since they may rarely log into their accounts. Hundreds of GoDaddy accounts that have several thousand domain names assigned to them have been compromised, Biasini wrote.

At least 10,000 unique subdomains that have been created on those accounts have been used for Angler-related attacks. Nearly a third of the domain names on the Internet are registered through GoDaddy, which may be why so many of the compromised accounts are with that registrar. The domain name accounts are likely compromised by stealing the login credentials through phishing attacks. An Angler attack starts when someone views a malicious advertisement. That advertisement then redirects the person to one of the hacked subdomains, which either delivers the exploit kit or redirects to another website hosting the kit.

Cybercriminals have moved to domain shadowing to keep their malware campaigns alive for longer. In the past, cybercriminals have registered new domain names that were used for attacks, but those were often quickly blocked. Domain shadowing is harder to stop. That has also made it harder for researchers to get a sample of Angler to see what software vulnerabilities it is exploiting. Angler has proved to be a very effective exploit kit, as its developers quickly incorporate the latest zero-day vulnerabilities in Adobe Systems' software such as Flash and Microsoft's Silverlight multimedia program.
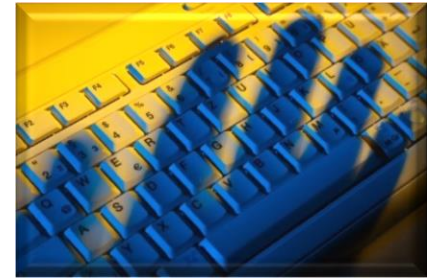
Mobile industry expects 5G networks running by 2020

Running short of dramatically new phone designs, leaders of the world's wireless industry agree their next big idea is 5G, shorthand for the fifth generation of networks they expect to have up and running by 2020.

But first they'll have to decide what 5G needs to do that the current, fourth generation of wireless networks will never offer. "It is unclear what the opportunity or weakness that 5G should address is," researchers at GSMA, the global trade group of mobile network operators, said in a report issued in December that punctured some of the more visionary claims for 5G.

There is simply no need for the industry to spend heavily on new network gear or force consumers to upgrade phones unless the new generation of wireless radio standards actually delivers radical improvement in speed or functions, mobile operators say. With discussions on setting 5G technical standards yet to begin, a final standard is expected in 2019, experts say. That will not stop network equipment makers such as China's Huawei and France's Alcatel-Lucent and dozens of newer players from touting projects as ready for 5G. Most industry experts expect the first commercial deployments of 5G in the run-up to the Tokyo Olympics in 2020.

Sony announces a new concept model SmartEyeglass Attach

After developing the Sony SmartEyeglass prototype just about three months ago, Sony has now announced Sony Smart Eyeglass Attach which can be mounted on eyewear such as your glasses. Sony SmartEyeglass Attach has an ultra-small detachable eyepiece with organic EL display. The SmartEyeglass can be used by anyone on a daily basis but will be particularly useful for people who are into sports. Sony is planning the mass production of the glasses after displaying it in the 2015 International CES, which will be held in Las Vegas from January 6th to 9th. The display for one eye of the glass is 0.23 inch and the resolution is 640 × 400 dots with ultra-small color organic EL display. The SmartEyeglass has an ultra-compact optical unit, inside which lies a miniaturized control board with a high density mounting technology; Sony says that the processing capacity is as good as a smartphone's. The biggest USP of the glass is its light weight as it can be attached to glasses, goggles, or sunglasses.

The information that you will require on everyday basis is displayed on a sub window which does not interfere with visibility when playing a sport and another wide range of applications. Let's say you are playing golf, you can mount the Sony Smart Eyeglass Attach over the goggle or glass you are currently wearing, the glass will show you the course map and the distance information on one side without interfering with your normal vision. The Sony Smart Eyeglass Attach has an electronic compass, accelerometer, and touch sensor loading. CPU is Arm Coretex-A7, Bluetooth has a high speed of 3.0 + and the Battery Capacity is 400 mAh.

Tech News

Touch-Based Word, Excel And PowerPoint Now Out For Windows 10 Preview Users

While these may not be the final versions of the apps, they should be good enough for day-to-day use

Those cool-looking apps that were demoed at the Windows 10 announcement are now out on the Windows Store today. Users of the Windows 10 Preview can now download these and try out the apps that will change the way we create documents for work or personal use. Touch is indeed a good thing and makes using productivity apps like these a lot easier. As for the apps, they are indeed preview versions and not the final product. Again, these are universal apps and while the preview is only available for PCs, laptops and tablets the team mentions that same will be available for mobile pretty soon (meaning that the preview release for mobile, is indeed fast approaching).

The final versions of the touch-based Office apps will be released in H2 of 2015.

Do keep in mind that these are just the touch-based apps for tablets and touch-based desktops, but not the Office 2016 desktop version of the software that is for power users.

Special Focus

The Magic Behind the Positioning of IBM as a Leader in Gartner's 2014 SIEM Magic Quadrant

Great news as winter has once again loosened its grip and spring has turned into summer on Cape Cod: Gartner just published the 2014 SIEM Magic Quadrant and Critical Capabilities reports, and IBM Security QRadar is again positioned in the Leaders quadrant, this time better than ever.

For the first time, IBM Security QRadar is positioned furthest to the right for vision and highest for ability to execute, which we believe makes IBM THE LEADER in this space. That means IBM Security is rated above HP, McAfee, Splunk, LogRhythm, EMC (RSA) and every other vendor on "Ability to Execute" (the Y-axis) and "Completeness of Vision" (the X-axis). This represents overall viability, product/service, customer experience, market responsiveness, product track record, sales execution, operations and marketing execution.

This recognition reflects the origins of QRadar, its growth as an independent company and the accelerated investments the IBM Security Systems division has made in the QRadar Security Intelligence Platform since it acquired Q1 Labs back in 2011. Case in point: In just the last 10 months, they've tightly integrated vulnerability management and network forensics technologies that double and triple down on the IT security team productivity enhancements — offense records — delivered by QRadar SIEM.

Furthermore, this achievement especially reflects the positive experiences their clients report because no vendor is positioned highly without good customer references. IBM are fortunate to have satisfied customers who will share their IT security objectives, deployment details, user experiences and more, helping to confirm the value of their module extensions and technology integrations

Every supplier will tell you they satisfy customer demand. But what customers need is a partner who delivers highly innovative solutions to problems they may not yet be aware of or in a way they had not considered, such as correlating network flows with log events and asset values and identity. They did that years ago, and we called it Security Intelligence. But customer after customer also tells the same thing: We love QRadar because it does what IBM say it does, and it does it rapidly, dependably and easily.

Figure 1. Magic Quadrant for Security Information and Event Management

According to this new Gartner Magic Quadrant report, **Security Information and Event Management (SIEM)** is a $1.5 billion market that grew 16 percent during 2013 and is expected to grow at a rate of 12.4 percent in 2014. The Leaders quadrant consists of vendors that deliver solutions that are a good match to general SIEM market requirements, have been the most successful in building an installed base and revenue stream within the SIEM market and show evidence of superior vision and execution. IBM Security QRadar has done all of these things and far more, and hat is off to this extremely talented, dedicated and hardworking team that has delivered outstanding solutions to their customers in this critical and strategic marketplace.

(Galaxy is one of IBM's Premier Business Partners and has a skilled pool of experts/consultants to design, implement and support IBM's SIEM Solutions for enterprises)

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

"*For all our readers in India and also India watchers, this seems to be the time when a whole lot of global enterprises will rise from here. Hitherto, Indians have been largely successful in setting up and running global enterprises - albeit more from outside the shores than from within. Now, the time has come where we can possibly see a lot of such action from within. For that to happen, the Government in power needs to take steps that would not only encourage investment but also guarantee some kind of road map outlining future tax regimes, laws etc. Everybody has become wary of the fickleness with which laws are changed that that is why investors are jittery. Why else, would home grown enterprises be forced to register their companies overseas the moment they need investors? The markets are here, the entrepreneurs are from here, what is the need to register the company elsewhere? The Indian Union Budget for 2015-16 has partially addressed these issues - some with the carrot others with the stick! Special packages announced for start-ups can only augur well for the future.*

On the technology front, we are all waiting for the release of Apple Watch sometime next month. After the disappointing response to the equally hyped Google Glass, the success of the Apple Watch is extremely important for 'wearable devices' to really catch on. Being not as intrusive and 'in your face' as the Google Glass, I am really optimistic and excited. Wearable devices will be really big and surely play the roles of game changers in the fields of healthcare, sports, fashion, security and defense. 'Watch' this space."