



# TechTalk

## Issue 46

### April 2016

## Windows 10 'Anniversary Update' Headed to All Users This Summer

**The next big Windows update adds features for Windows Hello, Cortana, Ink, and more.**

Microsoft is taking the wraps off its next big Windows release, officially called the "Anniversary Update."

Formerly code-named Redstone, the Windows 10 Anniversary update will be free (and, presumably, mandatory for Home users) this summer.

The update will include an expansion of Windows Hello that lets users authenticate with apps and supported websites using a fingerprint or face recognition, and more features for styluses using Windows Ink. For instance, users can open an "ink workspace" with a list of recent and suggested pen-enabled apps, auto-create reminders based on written dates in OneNote, and draw a line on a map to find the distance between two points.

The Anniversary Update will also apply to the Xbox One, bringing Windows Store apps to the console and letting retail Xbox One units act as developer kits.

Microsoft also announced some improvements to Cortana, the virtual assistant built into Windows 10. With the Anniversary Update, Cortana will be available on the Windows lock screen, with support for the hands-free "Hey Cortana" voice command.

Cortana is opening up to deep linking from third-party Internet services as well. While creating a calendar appointment over lunch, for instance, users might get options to book a table with a restaurant reservation service, or order pick-up. Looking up locations could offer a ride request button from a car service such as Uber.

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## Seeing Eye Phone: Giving Independence to the Blind

**Apple's iPhone software is helping people with limited or no sight navigate around town and across the Internet.**



Luis Perez carefully frames his photo to get the best shot for Instagram. Gripping his white cane in one hand and his iPhone in the other, Perez squints at the screen and points the display toward the sunset. His iPhone speaks: "One face. Small face. Face near top left edge."

Perez snaps several photos and then puts his iPhone back in his pocket, with plans to examine the images later. Taking sunset pictures with an iPhone is nothing remarkable -- until you consider that Perez, a 44-year-old who lives in St. Petersburg, Florida, is legally blind. Not being able to clearly see the photos he's taking doesn't slow him down. By using technology built into the iPhone, along with apps from the App Store, Perez has developed quite a photography habit. "My [remaining] time with vision is limited," says Perez, who began losing his sight about 15

years ago from retinitis pigmentosa, a genetic eye disease. He now sees only a small circle of what's directly in front of him, and that will deteriorate over the next few years. "I have to enjoy it as much as I can, and photography is part of that."

In the past, visually impaired people had to shell out thousands of dollars for technology that magnified their computer screens, spoke navigation directions, identified their money and recognized the color of their clothes. Today, users only need smartphones and a handful of apps and accessories to help them get through their physical and online worlds. Most often, the mobile device of choice is the Apple iPhone.

# The Future is Now

## New System Converts MRI Scans into 3D-Printed Heart Models for Surgical Planning

**Engineers and computer scientists at MIT and Boston Children's Hospital have developed a new system that can convert MRI scans of a patient's heart into 3D-printed models.**



The models could provide a more intuitive way for surgeons to assess and prepare for the anatomical idiosyncrasies of individual patients. "Our collaborators are convinced that this will make a difference," says Polina Golland, a professor of electrical engineering and computer science at MIT, who led the project. "The phrase I heard is that 'surgeons see with their hands,' that the perception is in the touch."

This fall, seven cardiac surgeons at Boston Children's Hospital will participate in a study intended to evaluate the models' usefulness.

Golland and her colleagues will describe their new system at the International Conference on Medical Image Computing and Computer Assisted Intervention in October. Danielle Pace, an MIT graduate student in electrical engineering and computer science, is first author on the paper and spearheaded the development of the software that analyzes the MRI scans. Medhi Moghari, a physicist at Boston Children's Hospital, developed new procedures that increase the precision of MRI scans tenfold, and Andrew Powell, a cardiologist at the hospital, leads the project's clinical work. The work was funded by

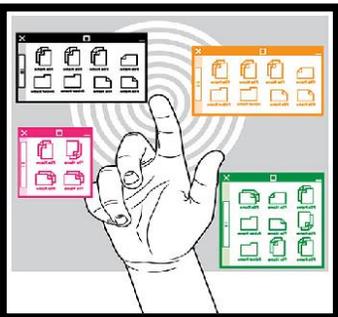
both Boston Children's Hospital and by Harvard Catalyst, a consortium aimed at rapidly moving scientific innovation into the clinic.

MRI data consists of a series of cross sections of a three-dimensional object. Like a black-and-white photograph, each cross section has regions of dark and light, and the boundaries between those regions may indicate the edges of anatomical structures. Then again, they may not determining the boundaries between distinct objects in an image is one of the central problems in computer vision, known as "image segmentation." But general-purpose image-segmentation algorithms aren't reliable enough to produce the very precise models that surgical planning requires. Typically, the way to make an image-segmentation algorithm more precise is to augment it with a generic model of the object to be segmented. In human hearts, for instance, have chambers and blood vessels that are usually in roughly the same places relative to each other. That anatomical consistency could give a segmentation algorithm a way to weed out improbable conclusions about object boundaries. The problem with that approach is that many of the cardiac patients at Boston Children's Hospital require surgery precisely because the anatomy of their hearts is irregular. Inferences from a generic model could obscure the very features that matter most to the surgeon. In the past, researchers have produced printable models of the heart by manually indicating boundaries in MRI scans. But with the 200 or so cross sections in one of Moghari's high-precision scans, that process can take eight to 10 hours.

"Absolutely, a 3-D model would indeed help," says Sitaram Emani, a cardiac surgeon at Boston Children's Hospital who is not a co-author on the new paper. "We have used this type of model in a few patients, and in fact performed 'virtual surgery' on the heart to simulate real conditions. Doing this really helped with the real surgery in terms of reducing the amount of time spent examining the heart and performing the repair."

## New Nanotechnology Allows for Touchless Optical Finger Motion Tracking

**Scientists from the Max Planck Institute have developed nanostructures that change their electrical and even their optical properties as soon as a finger comes anywhere near them, making touchless optical finger tracking possible.**



While touchscreens are practical, touchless displays would be even more so. That's because, despite touchscreens having enabled the smartphone's advance into our lives and being essential for us to be able to use cash dispensers or ticket machines, they do have certain disadvantages. Touchscreens suffers from mechanical wear over time and are a transmission path for bacteria and viruses.

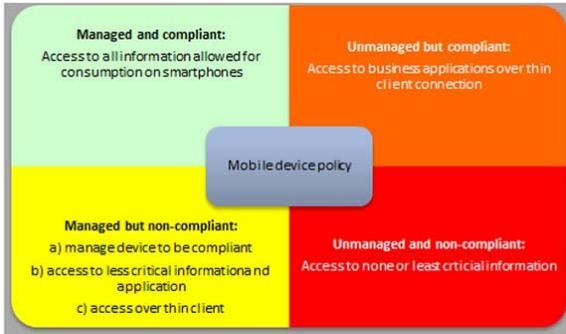
A touchless display may be able to capitalize on a human trait which is of vital importance, although sometimes unwanted: This is the fact that our body sweats – and is constantly emitting water molecules through tiny pores in the skin. Scientists of the Nano chemistry group led by Bettina Lotsch at the Max Planck Institute for Solid State Research in Stuttgart and the LMU Munich have now been able to visualize the transpiration of a finger with a special moisture sensor which reacts as soon as an object – like an index finger – approaches its surface, without touching it. The increasing humidity is converted into an electrical signal or translated into a color change, thus enabling it to be measured. Phosphoantimonic acid is what enables it to do this. This acid is a crystalline

solid at room temperature with a structure made up of antimony, phosphorus, oxygen, and hydrogen atoms. "It's long been known to scientists that this material is able to take up water and swells considerably in the process," explained Pirmin Ganter, doctoral student at the Max Planck Institute for Solid State Research and the Chemistry Department at LMU Munich. This water uptake also changes the properties of the material. For instance, its electrical conductivity increases as the number of stored water molecules rises. This is what enables it to serve as a measure of ambient moisture. A moisture sensor enables touchless screens. The material for a touchless display, as developed by a team working with B. Lotsch from the Max Planck Institute for Solid State Research and LMU Munich, changes its electric conductivity and – cast into a photonic nanostructure – the color, too, as it takes up water vapor.

# Technology Focus

## How to Write an Effective Enterprise Mobile Device Security Policy

Many large organizations recognize that securing mobile data is critical, but may be unsure how to rein in the wide variety of mobile devices that have access to enterprise data. A mobile device security policy is the first step toward regaining control over this business asset. But how do you go about constructing an effective enterprise mobile device security policy? Let's look at where to start, what to include, and mistakes to avoid when creating a policy to protect your organization's mobile data.



### Mobile device security policy: Getting started

As with every kind of security policy, starting with a solid understanding of business objectives, threats, risks and their implications and effects can make all the difference. First, enumerate mobile devices that might be carrying business data. Inventory the business data touched by or stored on those devices, classifying data by origin, use and sensitivity. In short, get a concrete handle on the assets the policy must help protect the organization and your business objectives for doing so.

Next, identify potential mobile data threats, the likelihood of each being realized, and resulting effects on business. For example, regulated data may be breached when an unencrypted device is lost; many businesses consider this a high-risk/high-impact threat. Data may also be breached by a mobile Trojan, resulting in a similar high-impact security

event, despite typically being classified as a lesser risk.

In order to focus on threats of greatest risk and impact during your assessment, plot a grid with mobile data threat risk level on one axis, and potential impact of a realized mobile data threat on the other. When doing so, it can be helpful to consult a standard risk assessment model such as ISO 27005 or NIST SP800-30.

Then, for each threat, identify possible compensating controls to reduce risk. (For a list of relevant threats and controls, consult NIST SP800-124.) In cases where residual risk is deemed acceptable, your policy may permit mobile data access while requiring specified controls. In other cases, mobile data access may be prohibited, but you must still identify how those policies will be monitored and enforced. These decisions will become the framework of your enterprise mobile device security policy.

### Mobile device security policy: Putting policy onto paper

Having decided what your enterprise mobile device security policy will be, it's time to document those decisions in a manner that is clear, concise, easily disseminated, implementable and enforceable. This might seem like common sense, but many policies are crippled by missing one or more of these elements.

There is no magic one-size-fits-all policy template that guarantees success, but effective policies do tend to include some common elements:

- **Purpose:** It is difficult for any organization policy to achieve a business objective, if the policy's purpose is not clearly communicated. Briefly state why mobile device security is important to your business – be that regulatory compliance, expense reduction or customer protection – and how policy contributes to meeting those objectives.
- **Scope:** Characterize the mobile devices that fall within your policy's scope, as well as those that do not. For example, indicate whether the policy pertains to employee-liable and/or corporate-liable devices and enumerate relevant device types (e.g., feature phones, smartphones, tablets, eReaders, and netbooks).
- **Acceptable use:** Lay out your conditions for accessing and/or storing business data on mobile devices. For example, must employees explicitly consent to device monitoring, management, wipe or physical surrender? What data does the employer own; what usage permissions are hereby granted to mobile device users that comply with this policy?
- **Policies:** Enumerate mobile device (including mobile data) protection requirements, including mandatory and recommended compensating controls. For example, specify device PIN or password requirements, including minimum length, complexity, update frequency and inactivity timeout. Specify acceptable encryption methods for data-in-transit and data-at-rest, including scope of data to which they must be applied.
- **Enforcement:** Describe how you as the employer will monitor mobile device usage and settings, and any steps taken to enforce policy compliance. For example, summarize conditions for invoking remote wipe or revoking mobile data access, as well as HR/legal consequences.
- **Responsibilities:** Identify tasks that fall to the employer and the employee with respect to protecting mobile data. For example, who is responsible for backup and restoration? What (if any) actions must the employee take, such as disabling desktop file sync or turning in a retired (personal) device for rigorous data wipe.
- **Definitions:** Don't assume users understand security or mobility lingo. Policies often use technical terms; define what they mean to you, in this context.

Templates and examples from other organizations can provide a generic framework for defining your own mobile device security policy.

**Please call Galaxy's MDM Consultants to help you in Formulate the effective enterprise mobile device security policies for your organization.**

# Tech News

## FBI Says it Has Cracked Terrorist's iPhone Without Apple's Help

*The Department of Justice says the FBI has accessed the iPhone used by one of the gunmen in the San Bernardino terrorist shooting.*



Law enforcement officials were able to break into the phone used by Syed Farook with the help of an unnamed third party. Government officials did not go into detail about what was found on the phone.

"The FBI has now successfully retrieved the data stored on the San Bernardino terrorist's iPhone and therefore no longer requires the assistance from Apple required by this Court Order," DOJ spokeswoman Melanie Newman said in a statement. The DOJ is dropping the case against Apple, since it no longer needs the company's help.

Farook was one of two shooters in the December 2015 attack that left 14 people dead, and the government has been trying to force Apple to help bypass the phone's security features. Apple (AAPL, Tech30) has declined to help, saying it would compromise the security of all iPhone users. The company has argued that law enforcement officials don't understand the consequences of

creating a backdoor. The two sides were due in court last week, but the judge granted a last minute request from the DOJ to postpone the hearing, saying an unidentified party came to the FBI with an alternative method for hacking into the phone. The fact that the DOJ was able to successfully access the phone without Apple's help is bad news for the tech giant because it suggests Apple's encryption technology is not as advanced as once thought. In a statement, Apple said the case "should have never been brought." It reiterated its objection to the FBI's demand that the company build a backdoor into the iPhone, a step it said would have "set a dangerous precedent."

However, Apple said it plans to continue to help police with other criminal investigations. For instance, the company currently provides police who have warrants access to customer iCloud accounts. "Apple believes deeply that people in the United States and around the world deserve data protection, security and privacy," Apple said. "Sacrificing one for the other only puts people and countries at greater risk." The company said it remains committed to participating in the broader discussion of civil liberties and collective security. Apple did not address the hack specifically in its statement. However, previously the company said this vulnerability was consistent with its fear all along -- that it was in an "arms race" with people looking to exploit bugs in its software.

## Govt. Clears 100% FDI in E-Commerce



In a major boost to India's retail sector, the Narendra Modi government recently allowed 100 percent foreign direct investment (FDI) in the country's e-commerce marketplaces. Ever since the NDA government came into power, there were speculations that the government may open up the country's vibrant online retail sector. After nearly two years, the government has agreed to bring upon the reform that comes just ahead of Chinese major Alibaba's proposed entry into the country.

E-commerce is the second segment of retail to be opened up in a month. In the Union Budget, the government had allowed 100 percent FDI for marketing locally produced food items. According to a press note issued by the Department of Industrial Policy & Promotion (DIPP), a 100% FDI would be allowed only for e-commerce players under the marketplace

model and not the inventory-led model. Some of the major e-commerce marketplace players in India are Flipkart, Snapdeal, ShopClues and Paytm. All these companies are funded by marquee foreign investors like Alibaba, Ant Financial Services Group, Softbank as well as venture capital firms like Tiger Global. The US retail giant Amazon also entered India as a fully-owned online marketplace player two years ago. The e-commerce sector has got an estimated \$10 billion of foreign investment since it began nearly a decade ago. In 2015, around \$5 billion of foreign funds were raised by e-commerce companies. Until now, no FDI is allowed in inventory-led online businesses that companies such as Amazon have in the US, according to a Reuters report.

Until now, global players as well as Indian entrepreneurs have exploited the gray area in the policy until now, thereby running online operations with dollar funds from marquee investors. Companies such as Amazon India, Flipkart, Snapdeal and many others hosted thousands of sellers, were described as technology enablers rather than e-retailers. They claimed to have no inventory of their own. That kept them going even with a ban on FDI in e-commerce. The government has now put an official stamp on how the e-commerce majors have for many years operated their business. To bring clarity, the DIPP has come out with the definition of 'e-commerce', 'inventory-based model' and 'market place model'. The government has already allowed 100 percent FDI in business-to-business (B2B) e-commerce. It has defined e-commerce as buying and selling of goods and services, including digital products over digital and electronic network. The DIPP also introduced conditions to ensure that platform owners do not turn sellers. Some of the conditions are that sales cannot exceed 25 percent for any vendor, marketplace players or their group companies cannot sell, guarantee and warranty must be the sole responsibilities of the sellers, and platform owners cannot influence the pricing of products so that there is a level-playing field, among others.

Leading e-retailers, like Snapdeal, welcomed the government's decision to open e-commerce market place for 100% FDI. "These guidelines recognize the transformative role that e-commerce marketplaces will play in the Indian market. It is a comprehensive announcement, which will pave the way for accelerated growth of the sector in India," tweeted Snapdeal founder, Kunal Bahl.

# Tech News

## Dell Reduces Debt by Selling IT Services Unit for \$3Bn

While the buzz surrounding the Dell-EMC deal, one of the biggest in the history of technology, is still alive, and analysts are trying to predict what Dell will look like once it acquires EMC later this year, here comes another big blow from the PC maker. Dell is reportedly selling its IT services arm to Japan's tech major NTT Data. According to various media reports the deal is valued at over \$3 billion. The transaction is subject to customary closing conditions and regulatory approvals, the company said in a statement.

The latest development from Dell comes as part of its strategy to reduce its debt arisen due to the acquisition of data storage provider for \$67 billion, said Reuters. In October last year Dell had agreed to buy global storage major EMC in the largest M&A deal in tech space. The deal is expected to close between May and October. The PC maker Dell had acquired Perot Systems in 2009 for about \$3.9 billion with an intention to diversify its business to IT services and provide solutions for the clients. Michael Dell, chairman and chief executive officer of Dell Inc. "Together, NTT DATA and Dell Services will be a winning combination for Dell Services customers, team members and partners." Through the acquisition Japan's NTT will be able to increase its presence in North America, strengthen and expand its global delivery network, and bolster its infrastructure services capabilities. It will also help in expansion of BPO capabilities, particularly in healthcare and insurance industries. With the addition of Dell Services data centers in the US, UK, and Australia NTT will have around 230 data centers around the globe. Earlier, to strengthen its business Dell Services had appointed former Wipro CEO Suresh Vaswani as the President of the company. Presently, Dell Services have around four centres in India including centres in Bangalore, Noida, Chennai and Coimbatore. "Dell Services will continue to operate under the leadership of Suresh Vaswani, president of Dell Services, reporting to Michael Dell, until the transaction closes," it added.

John McCain, CEO of NTT DATA led this transaction and will have overall responsibility for leading the combined business. "There are few acquisition targets in our market that provide this type of unique opportunity to increase our competitiveness and the depth of our market offerings," said McCain.

"Dell Services is a very well-run business and we believe its employee base, long-standing client relationships, and the mix of long term and project-based work will enhance our portfolio. We are confident this transaction will be positive for clients, employees, and shareholders, and will advance our collective vision to be an innovative partner for our clients," he added.

Wells Fargo Securities, J.P. Morgan Securities and Credit Suisse Securities acted as the financial advisors to NTT Data, while Citigroup acted as lead financial advisor to Dell. "This acquisition will create even more value for customers and will benefit employees as they become part of a top ten global IT services business," said Suresh Vaswani, President of Dell Services. With the completion of the acquisition the combined entities will have around 30,000 people in India.

# Special Focus

## EMC Has Locked Down ScaleIO With its Biggest Update Yet

**The software-defined storage platform has to meet the needs of financial companies and carriers**



EMC has added features to ScaleIO to meet the needs of plus-size customers like banks and telecommunications carriers that are adopting the software-defined storage system. ScaleIO 2.0, available now, is the biggest enhancement yet to EMC's product, which pools object storage capacity across an enterprise in one logical system. EMC acquired ScaleIO in 2013.

Like other software-based storage platforms, ScaleIO is designed to free data from specific hardware so IT organizations can keep up with rapid growth requirements. It can turn direct-attached flash or disk storage throughout an organization into a resource that all applications can use. EMC also sells its own commodity-type hardware for ScaleIO in the form of its VxRack platform.

The update adds three features designed to better lock the platform down and meet regulatory requirements. Financial institutions are stricter than most when it comes to keeping their information out of the wrong hands. ScaleIO also works with more of the open-source platforms that many these customers and Web-scale companies are adopting. Enterprises can now control users' access to ScaleIO data through role-based user management platforms, namely Active Directory and LDAP (Lightweight Directory Access Protocol), instead of doing it separately with ScaleIO. In addition, the system now works with IPv6 (Internet Protocol, Version 6), the next-generation networking protocol that provides many more Internet addresses (good for carriers) and has security advantages over IPv4. The system is also better equipped now to ensure its own security. All the components of the software are digitally signed so ScaleIO can automatically check each one to determine if it's been compromised.

There are other enhancements to make ScaleIO networks more resilient to failure. Now it can apply a digital signature to each packet and use an "in-flight checksum" to verify that the data hasn't been manipulated or suffered a "bit flip" on the way from the application to the storage, said David Noy, vice president of product management in EMC's Emerging Technologies Division.

The update adds support for Ubuntu Linux, which is popular among cloud-computing shops that put their applications in Docker containers, he said. And EMC has contributed ScaleIO drivers to OpenStack, so enterprises can more easily use ScaleIO as the underlying storage infrastructure for OpenStack environments. Until now, users had to request the OpenStack drivers.

# 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

System integrators of best of breed technologies to deliver solutions to the problems and challenges that confront enterprises

## Galaxy Technology Services

Skilled pool of resources consistently maintains and delivers enterprise class service levels

## Galaxy Network Solutions

One of India's most trusted active and passive networking specialists

## Galaxy BI Consulting Services

Helps organizations to deliver and leverage business intelligence to create substantial business impact

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## 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

"Dear Readers,

We've just heard the news about the US FBI withdrawing the case against Apple for decrypting the iPhone that belonged to the terrorists or criminals who shot and killed a number of innocent and unarmed people. The reason was the FBI could 'outsource' the decrypting job and get into the iPhone data without any help from Apple. The question that immediately comes to mind is that if the FBI could do that, so could a resourceful hacking network thus making all of Apple's claims of security and privacy pretty much worthless. This just proves that one should always be mindful of the fact that no amount budgeted for security will be enough. One has to keep upgrading to stay ahead of the bad guys. CIOs need to set aside budgets for security audits and upgradation every year if they want to minimize risks of attacks and security breaches.

Another interesting bit of news was the launch of a "people's car" by Tesla. From the very high end and expensive electric car models hitherto available, Tesla has opened bookings for its Model 3. At a price tag of USD 35,000/- and a single charge range of about 320 km, this has the potential to be a real game changer. Now, not only the luxury segment automobile manufacturers but also the mid-segment ones are under the threat of disruption and will need to wake up to this threat very soon if they want to survive.

I hope you enjoy reading Tech Talk and would appreciate your honest feedback so that we can continue to improve the contents."