KS&R Data to Knowledge

Inside This Issue:

This Week's Stories

WikiLeaks: CIA Hacked Apple Devices In Ways Users Can't Fix

March 24, 2017

New documents from WikiLeaks point to an apparent CIA program to hack Apple's iPhones and Mac computers using techniques that users couldn't disable by resetting their devices.

Security experts say the exploits are plausible, but suggest they pose little threat to typical users. They say that many of the tricks are older — the iPhone hack involves the 3G model from 2008, for instance. The techniques also typically require physical access to devices, something the CIA would use only for targeted individuals, not a broader population.

"The most notable part of this latest WikiLeaks release is that it shows the CIA doing exactly what we pay them to — exploit specific targets with limited attacks to support our national interests," said Rich Mogull, CEO of the security research firm Securosis.

Apple didn't respond to a request for comment. The CIA has not commented on the authenticity of this and earlier WikiLeaks revelations, but has previously said it complies with a legal prohibition against electronic surveillance "targeting individuals here at home, including our fellow Americans." The agency declined further comment Thursday.

Document Dump

The leaks Thursday come about two weeks after WikiLeaks published thousands of alleged CIA documents describing hacking tools it said the government employed to break into computers, mobile phones and even smart TVs from companies like Apple, Google, Microsoft and Samsung.

The latest disclosures are much more focused and consist of just 12 documents, all involving Apple products. The documents describe techniques for rewriting devices' firmware in ways that would maintain a hacker's access even if a user resets a phone or computer to factory settings. Doing so wipes out all apps and the operating system and installs a clean version; it is an extreme measure sometimes used to deal with technical problems, but is also the sort of step that someone suspicious of surveillance might take when getting a brand new phone.

A December 2008 document describes "NightSkies," a tool apparently designed to target the iPhone 3G; the document claims it can retrieve files such as contact lists and call logs and execute other commands. WikiLeaks suggested in a press release that the "CIA has been infecting the iPhone supply chain of its targets since at least 2008."

However, the document describes only how to install the malware on a "factory fresh" version of the 3G — specifically, the iPhone 3G running the 2.1 version of Apple's operating system, both of which are now nine years old.

Caveats Galore

But infecting all phones somewhere in the manufacturing process would be extremely difficult, said Mogull, especially given multiple layers of inspections conducted by Apple and its contractors. At most, he said, the CIA might have shipped a rogue phone individually to a target.

And while it's possible that the CIA developed similar techniques for later iPhone models, Mogull said iPhones from the past few years have much greater security, including digital security certificates that cannot be overwritten. A flag would be raised during the setup process if certificates do not match.

Johannes Ullrich, director of the Internet Storm Center at the SANS Institute, said NightSkies might not even be a current project given that the document was last updated in 2008, while the leaks appear to have come in 2016.

Other documents released describe similar exploits for Mac computers. One hides in the firmware of Apple's Thunderbolt-to-Ethernet adapter and requires someone to plug in that adapter to install the malware. Another targets a specific Mac model, the MacBook Air with the Leopard version of the Mac OS system — current at the time, but now seven generations old.

Ullrich said the Mac exploits all appear old. He added that some of the Thunderbolt issues have been fixed to make the hack more difficult to pull off.

wirelessweek.com

Senate Republicans Just Voted To Kill Internet Privacy

March 23, 2017

"The Senate voted along party lines, 50-48, to scrap those privacy rules, making it easier for broadband providers to share browsing history information about their customers."

From health-care coverage to environmental protections, Republicans are moving quickly to erase Barack Obama's presidential legacy. The latest Obama-era policy to be rolled back are guidelines protecting consumer Internet privacy. Last year, the Federal Communications Commission, under the direction of former Democratic chairman Tom Wheeler, mandated that broadband providers get their customers' permission before selling or giving their data to advertisers and other third parties. On Thursday, the Senate voted along party lines, 50-48, to scrap those privacy rules, making it easier for broadband providers to share browsing history information about their customers.

Internet companies, like Facebook and Google, and internet service providers, like Verizon and AT&T, are likely pleased with the decision. The Obama-era F.C.C. ruling of last October was widely disliked by industry leaders, and less red tape would make it easier for companies to use consumers' browsing history to help target more ads. Current F.C.C. rules allow Web sites to track your behavior and sell information about you to ad-targeting companies, but Internet service providers, under the Obama-era rules, still had to get your permission before they could do the same. That puts I.S.P.s at a disadvantage to other tech companies, they argue, when it comes to competing for ad dollars, and worries platforms like Facebook and Google, which reportedly see the rule as opening the door to further regulations in the consumer data area.

Thirty-four senators backed the resolution before Thursday's vote, spearheaded by Senator Jeff Flake. The measure was also backed by new F.C.C. chairman Ajit Pai, the former Verizon lawyer who opposed the privacy rules last year and has been laser-focused on regulating technical standards as opposed to advocating for consumers or regulating the telecommunications industry. Should the resolution pass the House, broadband providers would be able to collect a trove of data—things like financial information and browsing history—from its users. The majority of consumers would be affected, though there will likely be an opt-out feature.

The changes have left consumer protection and privacy advocates reeling. The dismantling of the Obama-era regulations "would be a crushing loss for online privacy," the Electronic Frontier Foundation said Thursday. "ISPs act as gatekeepers to the Internet, giving them incredible access to records of what you do online. They shouldn't be able to profit off of the information about what you search for, read about, purchase, and more without your consent." Democrats spoke up against the Republican measure as the Senate debated the decision on Wednesday evening. "Yes, there are two sides to this," Senator Ed Markey, who created the 1996 Telecommunications Act, said, in opposition to rolling back privacy protections for consumers. "You want the entrepreneurial spirit to thrive, but you have to be able to say no, I don't want you in my living room. Yes, we're capitalists, but we're capitalists with a conscience."

vanityfair.com

Products & Services

Erato's Muse 5 Wireless In-Ear Headphones Give Airpods A Run For Their Money

March 24, 2017

"The Muse 5 is a good alternative to the AirPods that stand a much better chance of working with your ears, and with sound that won't leave you wishing you'd waited for something better."

Apple's AirPods are probably the first really mainstream completely wireless headphones, but Erato has been making these for a while now. The company's latest is the Muse 5, a set of in-ear buds that are cheaper than their debut Apollo 7 option, but still come with a charging case and very respectable battery life.

The Muse 5's least impress feature might be their design – it's a bit like you're putting bulky buds you found at the local gas station in your ears, with the plastic construction and contrasting color plastic ring on each unit. But they are completely wireless, and effectively so, which is not something you'll get at the gas station, obviously. Plus, their design is ergonomic – the two-part ear canal soft silicon tips ensure a snug fit, at least in my experience, without requiring the use of tricks like memory foam to ensure a seal.

The overall look and feel of the Muse 5 contrasts considerably with Erato's Apollo 7, the wireless buds it released last year. But the Muse 5 gets a bit more battery life than its predecessor, with four hours of music playback per full charge instead of just three, and the case packs enough backup charge to get you up to 12 hours of playback without having to connect to a plug-in power source.

Muse 5 is also more unobtrusive than the Apollo 7, which stick some distance out of your ears. They're also more subtle than Apple's own AirPods, provided you get the black version, and they're more likely to sit comfortably and securely in your ears if you happen to have ear shapes that don't work with Apple's native wireless buds.

Sound quality is good on the Muse 5, better than you might expect given the build quality and materials used. They sound as good as wired earbuds in this price range, and have better sound isolation than Apple's AirPods, and potentially better sound depending on how you like your tunes. The built-in microphone also works well, despite not having any special beam forming magic, although you won't' want to use it for more than issuing Siri commands and making quick calls.

After trying a number of different sets of completely wireless buds, the Muse 5 strike a good balance in terms of price tag, features, sound quality and design (though they're lacking the most in this last area). I did experience very occasional dropouts, but that's par for the course with even the best among these devices. For $180, the Muse 5 is a good alternative to the AirPods that stand a much better chance of working with your ears, and with sound that won't leave you wishing you'd waited for something better.

techcrunch.com

Twitter Might Build A Paid Subscription Service For Power Users

March 23, 2017

Twitter is considering offering a paid subscription to power users, including brands and news organizations, The Verge has confirmed. Twitter users today began tweeting screenshots of the survey and a mock-up of what the premium version of Twitter could look like, with new analytics, alerts about breaking news, and information about what an account's followers are tweeting about. The advanced features would be contained within Tweetdeck, the company's app for professionals. The core service would remain free.

"We're conducting this survey to assess the interest in a new, more enhanced version of Tweetdeck," a spokeswoman told The Verge. "We regularly conduct user research to gather feedback about people's Twitter experience and to better inform our product investment decisions, and we're exploring several ways to make Tweetdeck even more valuable for professionals."

The company has not yet begun to build the service, a source familiar with the matter told The Verge. The survey is designed to help the team prioritize the product roadmap for the service.

Here's the language in the survey that Twitter is distributing:

"Twitter is considering offering an advanced TweetDeck experience, with more powerful tools to help marketers, journalists, professionals, and others in our community find out what is happening in the world quicker, to gain more insights, and see the broadest range of what people are saying on Twitter. Whether you use Twitter for work or just want to be more informed on the latest news, sports, entertainment, political viewpoints, and information in today's world, this advanced TweetDeck experience will be designed to help you get even more out of Twitter.

This premium tool set will provide valuable viewing, posting, and signaling tools like alerts, trends and activity analysis, advanced analytics, and composing and posting tools all in one customizable dashboard. It will be designed to make it easier than ever to keep up with multiple interests, grow your audience, and see even more great content and information in real-time."

It would also offer extra features such as advanced audience insights & analytics, tools to monitor multiple timelines from multiple accounts and from multiple devices, including mobile, all in an ad-free experience."

A subscription business could offer Twitter a vital new revenue stream at a time when its advertising revenue has been in decline. As other companies work to peel off the remaining parts of the company's business, Twitter needs to give its core user base reasons to stick around. It's unclear that advanced analytics would be a major business for the company. But given the attacks that Twitter is facing from all sides, any investment in the core product is good news for users.

theverge.com

Emerging Technology

T-Mobile Fights Phone Scams With New Tools For Customers

March 24, 2017

This week, the FCC revealed its plan to battle robocalls. Part of that initiative includes allowing phone companies to target and block calls from fake or suspect phone numbers. Those rules are still being finalized, but T-Mobile isn't wasting any time on the matter. Today, the Uncarrier began rolling out two tools to its customers to help with phone scams: Scam ID and Scam Block.

Like the image above illustrates, Scam ID will alert customers via a caller ID-like message when the incoming call is most likely a scam. In terms of Scam Block, that feature will block those calls from even reaching a customer when it's enabled. T-Mobile is giving users both tools free of charge and says that the patent-pending tech that drives the two is built directly into its network. This means that it's available on any phone that's on that network.

When someone calls a T-Mobile number, the scam fighting system analyses the call and checks it against a database of known scammer numbers. The carrier says is a process that takes milliseconds to complete. That database is updated in real time, analyzing every call that hits T-Mobile's network and flagging known and potential scams as necessary.

Scam ID and Scam Block will be available to T-Mobile One customers "on a rolling basis" first. If you're a new One subscriber, the company says you'll be privy to the tools starting April 5th. Postpaid T-Mobile customers can also enable to the two scam-fighting features on that date.

engadget.com

Sensor-Laden Fake Fruit Ensures You Get Fresh Produce

March 23, 2017

"They've created artificial, sensor-packed fruit whose composition is enough like the real thing to provide an accurate representation of temperatures when placed alongside real food. If the fruit in the middle of a delivery isn't properly refrigerated."

It's challenging for shippers to check the quality of fruit on its way to your grocery store. Most sensors won't reflect the conditions inside the boxes, and plucking a sample isn't going to give you a comprehensive look. That's where some Swiss researchers might come to the rescue. They've created artificial, sensor-packed fruit whose composition is enough like the real thing to provide an accurate representation of temperatures when placed alongside real food. If the fruit in the middle of a delivery isn't properly refrigerated, the shipping company would know very quickly.

To create the fruit, the team first X-rays a real example and then has an algorithm generate the average shape and texture to produce a 3D-printed shell. From there, the team fills the shell with simulated fruit flesh made of carbohydrates, polystyrene and water. The result is obviously unnatural (and accordingly inedible), but realistic enough to produce accurate results in early testing.

And importantly, this would be relatively cheap. An entire fake fruit would cost about $50 US, and you could reuse it many times. The trickiest part would be getting real-time data. Right now, you have to stop and check the sensors to get results. The current design isn't equipped to wirelessly transmit data, so there's no way to get an instant notice while the foodstuffs are in mid-route. Even so, the tech could more than pay for itself if it helps produce companies avoid mistakes and deliver healthier produce to your local shop.

engadget.com

Mergers and Acquisitions

Amazon To Acquire Souq, A Middle East Clone Once Valued At $1B, For $650M

March 23, 2017

"Souq, often described as the Amazon of the Arab world and the region's biggest e-commerce player, for a price of $650 million."

Amazon continues its march across the globe, and one of its newest targets is the Middle East. According to multiple reports that we have confirmed with our own sources, the e-commerce giant has acquired Souq, often described as the Amazon of the Arab world and the region's biggest e-commerce player, for a price of $650 million, to spearhead its Middle East business. "The ink is dry" on the deal already, one source close to the company tells us.

Souq itself declined to comment for this story. Its CEO Ronaldo Mouchawar did not answer our emails and phone calls. Amazon declined to respond to our request for comment.

"We'll decline to comment on rumors and speculation, but thanks for reaching out," said Ty Rogers, a spokesperson from Amazon.

While it could be transformative for the region, the acquisition is not the huge exit that investors had hoped for Souq. The company had been valued at $1 billion in its last round of funding a year ago, when it raised $275 million. And at the end of last year, Souq was actually in talks to sell a 30 percent stake to Amazon in a deal that also would have valued it at $1 billion.

After that initial sale fell apart, Souq — which also held acquisition talks with eBay and Emirati retail group Majid Al Futtaim last year — had spent 2017 to date thrashing out a deal that jumped between $500 million and $700 million. Eventually, the two parties settled on $650 million, a number "that both can swallow," a source revealed.

Regardless of the lower price, it does look like investors will get their money back, and then some: in all Souq.com had raised $425 million, according to Crunchbase, with investors including Ballie Gifford, IFC Venture Capital Group, Jabbar Internet Group, MENA Venture Investments, Naspers, Standard Chartered Bank and Tiger Global Management.

The deal lets Amazon — which has never had business operations in the Middle East — hit the ground running with an already-large, established operation.

Souq has been around since 2005, founded by Mouchawar after Yahoo acquired his Arab-language internet portal Maktoob, leaving the e-commerce business behind (that portal was shut down by Yahoo in 2014 as part of its huge international retreat).

Today, it is the region's largest e-commerce player in terms of active business: The company's marketplace connects some 75,000 businesses with consumers to buy their goods, with the total number of products on offer currently at around two million across more than 30 categories, such as electronics, fashion, household goods and (most recently) car accessories.

But the marketplace is not all that Amazon is getting. Souq's business also includes an existing fulfillment operation (logistics and fulfillment being a key part of how Amazon has expanded elsewhere). And it looks like the deal also will include Souq's online payments gateway Payfort, which means that Amazon will be getting payments expertise and technology localized to the region.

Owning Souq sets Amazon up to play a significant role in the region's growing e-commerce market, which today accounts for around only two percent of all retail spend, according to a report from McKinsey.

High noon in the Middle East

It's an opportunity that others also are targeting. An ambitious new e-commerce venture called Noon.com is backed by $1 billion in capital from Saudi Arabia's Public Investment Fund and Dubai real estate tycoon Mohamed Alabbar, whose firm owns The Dubai Mall and the Burj Khalifa, among other projects. While Noon.com is yet to launch — local media speculate it is opening "within weeks" — it played a part in Souq and Amazon's coming together, a source tells us.

In a key event last summer, a consortium led by Alabbar snapped up a 16 percent stake in logistics player Aramex. That gave it the infrastructure match needed to fulfill their lofty plans for Noon.com, which is designed to be a digital complement to the vast offline retail footprint of Alabbar's Emaar Retail Group.

Amazon had in the past expressed an interest in Aramex as a vehicle to enable it to launch a business of its own in the Middle East, one source told TechCrunch, and so the Alabbar-led deal placed pressure on the U.S. firm.

Likewise, it also turned Noon.com into a very genuine threat to Souq's business. That caused both parties to return to the negotiation table and hammer out an agreement after their initial deal fell apart, one source with knowledge of deal told TechCrunch.

Ultimately, a deal with Amazon — even at a lower price — was deemed the optimal way for Souq to move forward, and a better bet for investors than collaborating with other would-be suitors eBay, which isn't as operationally focused as Amazon, or Majid Al Futtaim, which is strong offline, not online.

Noon.com aside, there is also competition from other players in the e-commerce space. They include Wadi, which last year raised $67 million, and Rocket Internet-backed Namshi.

The Souq deal expands on the foothold that Amazon has established in neighboring regions like India, where it has doubled down to compete against the likes of Flipkart and Snapdeal — which are reportedly now talking about a merger, partly it seems in response to the billions that Amazon is investing in its business there, and the ground that it is gaining as a result. Flipkart is also being linked with the acquisition of eBay India, which, while a lesser player in the country, would represent a significant consolidation move to attack the market. (Contacted for a response, an eBay spokesperson declined to comment on rumor and speculation.)

Considering Amazon's patient approach to India, where it has opted to invest over time rather than acquire, it's a significant move for the U.S. firm to expand in this inorganic manner in order to move in quickly in the Middle East.

To date, Amazon has taken a relatively slow approach to adding new markets, partly because it has been focused on building these services from the ground up. (The slow expansion has applied both to Amazon's main e-commerce business and for other products like the Echo home hub and the Alexa AI-based voice interface. While these have been huge hits in the U.S., they have only expanded to the U.K. and Germany to date.)

A planned launch for Singapore to move into Southeast Asia had originally been scheduled for the first quarter of this year, but sources now tell us that this has been pushed back to later this year. The company is also reportedly gearing up for a local launch in Australia.

techcrunch.com

Apple To Acquire Workflow iOS Automation App

March 23, 2017

"Workflow has long been recommended as an important app for those who need to do serious work using their phone. It lets users chain together a series of actions, such as creating a short text report, saving a copy in Dropbox, and texting it to a set of numbers, then carry them out with the tap of a button."

Apple has acquired Workflow, a popular iOS app for automating common actions on iPads and iPhones.

The app, which fills a similar niche on iOS to services such as IFTTT on the web and Apple's own Automator on desktop, was highly praised by its users, and by Apple itself, which commended its developers with a design award in 2015.

The acquisition is unusual, by Apple's standards, since the app will continue to be available on the App Store. Now though it will be free to download for all users. Equally unusual is the fact that Apple confirmed the acquisition, with Workflow's developer Ari Weinstein saying in a statement that he was "thrilled to be joining Apple".

In its statement confirming the acquisition, Apple praised the accessibility features of Workflow, "in particular an outstanding implementation for VoiceOver with clearly labeled items, thoughtful hints and drag/drop announcements, making the app usable and quickly accessible to those who are blind or low-vision".

Some things never change, however. Following the deal, a Workflow update removed a number of features relating to compatibility with Google's services. A mapping feature was swapped to use Apple Maps, a translate tool was altered to use Microsoft Translate, and Workflow can no longer be used with the iOS version of Google Chrome.

Also removed are integrations with read-later app Pocket, messaging services Line and Telegram, and minicab service Uber.

Workflow has long been recommended as an important app for those who need to do serious work using their phone. It lets users chain together a series of actions, such as creating a short text report, saving a copy in Dropbox, and texting it to a set of numbers, then carry them out with the tap of a button.

In 2014, the Verge's Sean O'Kane wrote: "With only a half-hour of familiarity I was able to set up a workflow that can find the locations of meetings I might have on any given day, pull images of the buildings they're in from Google Street View, and email them all to me."

mobile-tech-today.com

Industry Reports

AT&T, Verizon Join Companies Pulling Ads From Google And YouTube

March 23, 2017

YouTube video creators are fighting against the video service's filter screening out LGBTQ+ voices, while on the other end, advertisers are worried about a different type of content. In a movement that started with several UK brands (McDonald's, BBC, Channel 4, Lloyd's and others), companies and regulators have become concerned that ads are being placed by Google on websites and videos promoting extremist and hateful views.

Although Google has promised new tools will give partners more control over where ads appear, and also said it will review the kind of content allowed on YouTube, it may not be moving fast enough.

Now, AT&T and Verizon (parent company of AOL, which owns Engadget), are pulling online ad campaigns.

As reported by Variety, Verizon stated that "Once we were notified that our ads were appearing on non-sanctioned websites, we took immediate action to suspend this type of ad placement and launched an investigation." Its action followed AT&T, which named Google specifically, in a statement that "We are deeply concerned that our ads may have appeared alongside YouTube content promoting terrorism and hate. Until Google can ensure that this won't happen again, we are removing our ads from Google's non-search platforms."

As much as we talk about projects like Android, self-driving cars and AI, Google is still largely an advertising company (in January it reported that of $26 billion in revenue overall for Q4, $22.04 billion came from advertising across various platforms). As such, even a temporary loss of business from two of the largest advertisers in the US is the kind of painful prompt that may speed up its action.

In a comment to TechCrunch, a Google spokesperson said "We don't comment on individual customers but as announced, we've begun an extensive review of our advertising policies and have made a public commitment to put in place changes that give brands more control over where their ads appear. We're also raising the bar for our ads policies to further safeguard our advertisers' brands."

engadget.com

Verizon, AT&T To Continue To Shed Postpaid Users In Q1, UBS Predicts

March 22, 2017

The sudden war over unlimited data is taking a toll on the nation's two largest wireless network operators, UBS analyst John Hodulik said Wednesday.

T-Mobile and Sprint threw the lobbied the first salvos in the battle last August, when they introduced unlimited voice, text and LTE data plans nearly simultaneously. The move prompted Verizon to respond last month, reversing its long-held opposition to unlimited plans, and forced AT&T to make its unlimited plan available to all customers after previously limiting them to users who also subscribe to DirecTV.

The ultra-competitive market is proving costly to Verizon and AT&T, Hodulik said.

"In 1Q, we expect AT&T's and Verizon's Wireless revenue/EBITDA to fall annually as they continue to lose postpaid phone subs and see pressure on ARPU," he wrote in a note to subscribers. "While the move to unlimited could eventually be neutral to ARPU, it will initially provide a headwind due to lower overage and the optimization of plans.

"This, combined with greater promotional activity, will likely weigh on margins as well," he continued. "In addition, we calculate lower gross adds and upgrade rates will cause equipment revenues to decline MSD (mid-single digit), hurting total wireless revenue trends."

AT&T is likely to post a .6% quarterly decline in service revenue year over year, according to UBS, and wireless EBITDA is expected to fall .9%. UBS expects Verizon's service revenue in the first quarter to decline 4.5%, and the firm said lower upgrade rates will weigh on equipment revenues.

But the competitive market is likely to provide a boost for T-Mobile in the first quarter, helping the No. 3 U.S. carrier to continue its momentum. UBS lowered its estimate for T-Mobile's net postpaid handset additions from 800,000 to 750,000, but said the carrier continues to have a bright future.

"We expect T-Mobile to have another solid quarter adding the majority of the industry's net subs while growing revenues and EBITDA double-digits," Hodulik wrote. "We largely maintained our long-term estimates, including $4.5 billion of free cash flow in 2019."

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