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This Week's Stories

IEEE 5G Initiative Aims To Bring Industry, Policy, Academic Heads Together

December 23, 2016

Technical professional organization IEEE this week said it is seeking volunteers from across industry, academia, and government to contribute to its newly launched 5G Initiative program.

Chaired by Ashutosh Dutta, lead member of AT&T's technical staff, and Gerhard Fettweis, senior research scientist at the International Computer Science Institute and Vodafone chair professor at TU Dresden, IEEE said the 5G Initiative is meant to engage professionals worldwide to address the challenges associated with 5G and "lay the foundation to realize its many opportunities." IEEE said the Initiative will be split into several working groups, for which volunteers are currently needed.

The working groups will hone in on a number of focuses, including the 5G roadmap project to identify short, mid-, and long-term research innovation, and technology trends. Additional groups will set to work on standards, educational materials, 5G training, publication contributions, and event organization for conferences such as the IEEE 5G Summits.

"As the entry point to decades of immeasurable opportunities for innovation, 5G will enable Massive Servicing and The Tactile Internet that will be faster than the speed of light," Fettweis said. "The IEEE 5G Initiative is convening the vast breadth of IEEE resources in its members around the globe and new participants to realize targets like one terabyte per second Wi-Fi and 10 Gigabit per second cellular by 2025; one millisecond latency rate; and 25 bytes every 100 seconds for 10 years from a AAA battery."

IEEE noted members from 12 of its societies – including the Antennas Propagation, Communications, Computer, Instrumentation and Measurement, Microwave Theory and Techniques, Signal Processing, Technology and Engineering Management, and Vehicular Technology societies – are already on board with the 5G Initiative, but said it is actively seeking additional professionals to participate.

wirelessweek.com

Google Hits The Reset Button

December 22, 2016

For eight years, Google always held its biggest event of the year, its I/O developer conference, in San Francisco.

This year, however, it moved it out (and outdoors) to an amphitheater in Mountain View, right next to its campus. Looking back, that move now feels symbolic. In many ways, 2016 was a year of change for Google: It was the first full year after the surprise Google/Alphabet reorg and the year that saw Google get serious about its own hardware, the cloud and the enterprise. Across the industry, 2016 was also the year of AI and machine learning — and Google was very much at the forefront of this.

Let's get Google's misses right out of the way: the launch of its Allo and Duo messaging apps only led to mass confusion and very little adoption; smartwatches are struggling and the fact that Google

delayed the launch of Android Wear 2.0 to early next year isn't helping its wearables strategy; Project Ara, Google's Lego-like smartphone project, also died a sudden death.

But given the amount of products Google offers, it's no surprise the company occasionally misses the mark. So let's get to the good part.

Google used the last year to sharpen its product portfolio and to go after potentially lucrative markets that it previously allowed to linger. Hardware is an obvious example here. After years of working with different hardware manufacturers to produce what were essentially Android reference phones under the Nexus brand, Google ditched that effort this year and launched its Pixel phones under its own name and brand.

That itself would have been a big deal, but Google also launched Google Home (its Amazon Echo challenger), Google Wifi, a new version of the Chromecast dongle and the Daydream VR headset. That's an unprecedented amount of hardware from Google — and even more so because virtually all of these were developed from the ground up.

If you needed any evidence that Google is serious about making its own hardware, just read over that list again (and you could maybe even add the Pixel C tablet to it, though that launched late in 2015 and has lingered ever since).

At the core of a lot of these products and Google's overall AI ambitions is the Google Assistant, Google's effort at building a conversational personal assistant that'll work across its product line.

The company's interest in machine learning and AI isn't new, of course, and the Assistant built on years of developing the Google Knowledge Graph and other projects (which include Google building its own machine learning chips).

But in 2016, Google found a bunch of new surfaces to highlight its AI smarts that actually make sense to consumers. While the Assistant in Google Home wasn't first to market, I find it to be smarter and more useful than Amazon's current efforts. And with TensorFlow and other projects, Google has also found a way to seed the developer community with the tools to replicate and improve upon its own work (which will eventually flow back into its own products, too).

As Google competes with Microsoft and others in the productivity space, it has also started to bring some of those AI smarts to its own productivity tools. Those tools previously fell under the Google Apps for Work (or Education) moniker. This year, Google decided that name wasn't good enough, so it went for "G Suite" instead. I'm not a fan of that name, but that, too, shows how Google is trying to reset expectations.

Indeed, maybe the one area that most clearly shows the changes Google went through last year is its Google Cloud (there's another new name) division. As Google announced at a small and exclusive event in late September, both the G Suite and all of its products for developers and small businesses now fall under the Google Cloud umbrella. Internally, Google had been using "Google Enterprise" as the name for all of these efforts, but somehow decided that wasn't the right name, either.

A lot of that change — and Google's clearly renewed efforts to finally take the enterprise seriously after letting both its productivity tools and cloud platform linger for a bit as both Amazon and Microsoft made huge strides in the last few years — comes down to Google bringing Diane Greene onboard in 2015. Her arrival signaled that it wasn't going to cede a lucrative market like that to its competitors.

Over the course of the last year, it finally started opening up more data centers for its Cloud Platform, launched a slew of new cloud products (including a series of machine learning-based services) to better compete with AWS and Azure, made Firebase its core developer platform, and bought a

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"As Google competes with Microsoft and others in the productivity space, it has also started to bring some of those AI smarts to its own productivity tools."

training company to help enterprises teach their employees how to use Google Apps the G Suite apps. It even launched low-code enterprise app development tools. It also made a number of updates to the G Suite apps to help make them more useful for large enterprises.

Most of these are small moves, but taken together, they show Google has hit the reset button on its enterprise efforts and started to go after this market.

The Alphabet/Google reorg probably helped to push some of these changes along, but it also complicates things. Waymo, formerly known as Google's self-driving car project, is now an Alphabet company, for example. It does seem to have served its purpose in getting Google itself to look at its own projects, though, and search for revenue opportunities beyond the advertising machine that continues to print virtually all of its money.

As for next year? Google I/O will be at Moscone again, but I don't think Google is done reinventing itself just yet.

techcrunch.com

AT&T Unveils AT&T Call Protect To Help Customers Manage Unwanted Calls

December 20, 2016

Today, AT&T* launches AT&T Call Protect. The free network-based service gives eligible AT&T wireless customers with HD Voice more control over unwanted calls on their smartphones.¹

This innovative solution harnesses the power of the AT&T network to give customers automatic fraud blocking and suspected spam call warnings.

You can extend this innovative network-based service and get more optional features, including temporary call blocking⁴, by downloading the complementary AT&T Call Protect mobile companion app.

Simply add the feature through your myAT&T account or the AT&T Call Protect app and get these benefits:

- Automatic fraud blocking which helps reduce the chances that a customer will become the victim of a phone fraud or scam by stopping these types of calls in the network before they even reach the phone.²
- Suspected spam warnings on the incoming call screen which let customers choose whether or not to answer calls that originate from a suspected spam source.³ (Must be in HD Voice coverage area)

"Nuisance calls are an industry-wide problem that unfortunately affect many people," said Jeff Bradley, senior vice president, Device and Network Services Marketing, AT&T. "We've listened to our customers and know they want a network that provides tools to proactively assist in blocking nuisance calls. AT&T Call Protect, along with others, will help put customers more in control of the calls they receive."

¹AT&T Call Protect: Available to AT&T consumer postpaid wireless customers with iOS or Android smartphones that are eligible for AT&T HD Voice. For information on AT&T HD Voice, visit att.com/hdvoice.

²Automatic Fraud Blocking: May inadvertently block wanted calls, but settings can be adjusted to turn off blocking or allow specifically designated numbers.

³ Suspected Spam Warning: Must be in AT&T HD Voice coverage area to be alerted to suspected spam calls. Suspected spam may include service messages and/or other permitted calls.

⁴ Temporary Call Block: Req's AT&T Call Protect App. Permits blocking of phone numbers for up to 30 days at a time. Does not permit blocking of unknown numbers. www.att.com/callprotectterms.

yahoo.com

Products & Services

Facebook Kills Off Exact Location Sharing In Nearby Friends, Adds “Wave”

December 22, 2016

“This is Facebook’s chance to get us face-to-face with the people we care about, and not just in a video call or VR.”

Nearby Friends didn’t turn into the Foursquare-killer it could have been, but Facebook is still trying to help people meet up in person... with a few changes. Facebook has removed the precise location-sharing feature from Nearby Friends, which now only lets you opt-in to broadcasting your approximate distance from friends and current neighborhood.

Previously, you could select to temporarily or permanently share your constant exact pinpoint on a map with specific friends, or request this from a friend. This was useful for meeting up with someone on the move, knowing when someone was arriving or frighteningly, stalking your significant other.

But it also lent an air of creepiness to a product that is relatively privacy-safe for a location-sharing service, as users fully control who sees what. And if you forgot you’d permanently shared your exact spot with someone, it could needlessly drain battery.

TechCrunch noticed the map being removed from the Nearby Friends service in the Facebook app’s More tab, and Facebook now confirms that the feature for letting people see your precise location on a map is no longer active. That strips Nearby Friends’ main visual component too, making it now just a list of people’s proximities and neighborhood.

That seems to have paved the way for a desktop version of Nearby Friends in the chat sidebar on the right. It shows a list of friends within a few miles, with their neighborhood and name. Tapping lets you send them a message to arrange a get-together. Facebook confirmed this is in testing after we spotted the addition.

Finally, Facebook has built a successor to the classic “Poke” feature called “Wave.” Some users have the option to send a Wave to friends they see in Facebook Nearby to let them know they’re interested in what that friend is up to. It’s a lightweight way to reach out without a full-fledged instant message, but that could lead to a conversation on Messenger about whether they’re free to hang out.

Wave addresses the core flaw of Nearby Friends — that just because someone is in your proximity, doesn’t mean they’re available. This is what plagued Foursquare, too. You were never sure if you should drop in on someone down the street, as their check-in wouldn’t necessarily tell you if they were on a date or in a meeting there. Wave was pointed out by Matteo Gamba and others, and first covered by Social Times.

A Facebook spokesperson confirms that “We are testing a new feature within Nearby Friends allowing people to send their friends a waving hand emoji to say hello and help them meet up. This is

meant to give people more ways to express themselves, and help friends interact with one another in new fun and lightweight ways.”

Facebook Nearby Friends never received the proper attention in the bloated Facebook product. It was buried alive in the main app’s More tab since its launch in April 2014. That’s unfortunate, since it was so useful for figuring out who was a few blocks away and might want to get coffee, have drinks or chill. [Disclosure: I worked on an in-person gathering app called Signal in 2013 that’s since shut down.]

Facebook hadn’t given the product much love until recently. Perhaps that’s because Facebook got burned when someone figured out how to turn an exact-location-sharing feature in Messenger into a map of people’s movements. Facebook subsequently dropped exact location sharing from Messenger.

But in-person gathering is still a massive opportunity for Facebook because it’s one of the few companies with both your real-life social graph and an app you open frequently enough to spontaneously notice friends saying they’re nearby and available. Messenger (or Snapchat) could deliver a gathering feature at scale that dedicated apps like Down To Lunch and Free haven’t achieved. Messenger already has an “Active Now” section showing friends available to chat with, and a Nearby Friends section in the threads list would make perfect sense.

Social networks are often accused of making us more isolated behind our screens. This is Facebook’s chance to get us face-to-face with the people we care about, and not just in a video call or VR.

techcrunch.com

Ultra Mobile’s “Data My Way” Lets Customers Pick Their Own Loading Speeds

December 19, 2016

Prepaid nationwide carrier Ultra Mobile on Monday introduced a new way for customers to manage data usage with a tool that lets them choose their own download speeds.

Dubbed “Data My Way,” the new feature allows Ultra Mobile and Univision Mobile subscribers to set their own preferred loading speeds to conserve their monthly 4G LTE allotment.

According to Ultra Mobile, the feature offers three data speeds options – Super Saver, Optimized, and Full Speed. The company said Super Saver is designed for customers who primarily use mobile data for “less data-intensive web activities,” such as checking email, while the Full Speed option comes with no restrictions. The Optimized tier allows customers to stretch their data up to 20 percent longer, the carrier said.

“For anyone who’s ever streamed a few seconds of a video on their mobile network before closing it out, chances are that much more of the video file was actually preloaded and still counted against their data plan,” said Chris Furlong, Chief Product Officer at Ultra Mobile. “For the majority of people who don’t have unlimited 4G LTE data, instances like these can take a major bite out of your monthly allotment. Rather than try to upsell people, Data My Way is Ultra Mobile’s solution to help our customers get the full value of high-speed data they’re already paying for.”

The offering appears to be similar to features offered by several other national carriers, including T-Mobile, Verizon, AT&T, and Sprint.

“The offering appears to be similar to features offered by several other national carriers, including T-Mobile, Verizon, AT&T, and Sprint.”

T-Mobile, Sprint, and AT&T now all offer optimization for mobile video, streaming at 480p to reduce the amount of data used (though that doesn't matter at T-Mobile since most video is zero rated through Binge On). Verizon also had a feature called Data Saver that allowed customers to opt to only upload and download content when connected to Wi-Fi.

Ultra Mobile said Data My Way is available immediately to customers via the Account Management portal. The default setting is "Optimized," but the company noted customers can toggle back and forth between the different settings as often as they like.

wirelessweek.com

Emerging Technology

Google To Fight Apple Watch Head-on With Its Own Smartwatches

December 22, 2016

It was a pretty terrible year for smartwatches not called Apple Watch. With the delay of Android Wear 2.0 until next year, most smartwatch makers decided to take a break.

But while smartwatch mania might have cooled off for now, it looks like the watches are far from dead. They could become a hot thing again if Google has its way.

Jeff Chang, Android Wear's product manager, says Google will release two smartwatches running Android 2.0 within the first quarter of 2017, reports The Verge.

The confirmation corroborates a report from Android Police this summer that claimed Google was working on two smartwatches.

They will be Google's first smartwatches. Since its launch, Google has only worked on the Android Wear software and not any hardware, instead relying on third-party companies for the latter. But with Google now dedicating resources to building its own hardware ecosystem, it's no surprise the company's preparing its own smartwatches.

The two smartwatches will reportedly not sport the Pixel branding of Google's flagship phones. The hardware will be built by a company that has made Android Wear smartwatches in the past, although no specific company was identified.

The two smartwatches will reportedly not sport the Pixel branding.

Google recently acquired Cronologics, the wearable company behind the Alexa-equipped CoWatch, to "continue pushing the frontier of wearable technology and smartwatches with Android Wear 2.0 and beyond." It's possible their expertise with integrating digital assistants into smartwatches will help make Google's smartwatches more compelling.

Though no further details were provided by Chang, we can make a few smart predictions.

First, the smartwatches — one larger and one smaller codenamed "Angelfish" and "Swordfish" — if the previous Android Police specifications turn out to be true, will likely feature round displays with crown buttons, and at least one model will support Google's MODE watch bands.

The larger model might also have built-in LTE and GPS for full independence from a smartphone, similar to how Samsung has untethered its Gear S3 from requiring a Bluetooth connection, or LG's second-generation Watch Urbane with LTE.

Most importantly, because machine learning and AI are now at the center of everything Google does, the company's likely to integrate its Google Assistant (found in the Pixels and Google Home) directly into its two flagship Android Wear 2.0 smartwatches. The Assistant could be part of Google's secret sauce for winning back customers who've felt underwhelmed by Android Wear thus far.

It also wouldn't be surprising for Google's smartwatches to cost as much as the Apple Watch. The Pixels, after all, are premium phones that cost just as much as the iPhone.

With the demise of Pebble, it's good to hear smartwatches aren't dead just yet.

mashable.com

Carnegie Mellon Researchers Tout New CapCam Device Pairing Process

December 21, 2016

Researchers from Carnegie Mellon University have developed a system called CapCam, similar to NFC, that pairs devices using touch screens, and it could have implications for how data is transferred between mobile devices and screen surfaces in the future.

CapCam, featured in a research paper in November, is drawing attention as an alternative to manual pairing technologies like Bluetooth, without the specific hardware requirements of options like NFC. CapCam pairs a "cap" device with a capacitive touchscreen to a "cam" device with a camera sensor.

By way of example, smartphones and tablets could be paired with each other, and these devices could be paired to even larger touchscreens, such as smart whiteboards and touchscreen monitors. Because the technology uses a phone's rear camera, it's applicable to both new and older devices.

In a YouTube video, researchers describe how CapCam can be used to enable smartphones to establish quick, ad hoc connections with a host touchscreen device simply by pressing a device to the screen's surface.

The video also shows how it could be used to transfer data between a personal device and a larger display, drag files on and off of smartphones or even play air hockey on a large surface, with sound effects when the puck hits and multidevice interaction. Phones can also exchange business cards by being pressed together.

NFC, which is the technology behind things like Apple Pay, took years to get where it's at today, and Bluetooth's original days date back to the 1990s. But unlike NFC, no hardware configurations are necessary for CapCam, so it conceivably could be offered as a downloadable app, although there's no reason it couldn't also be baked into a device's OS.

The researchers also point out that while many devices support Bluetooth pairing, such pairing options are generally time-consuming and cumbersome and often, users must confirm or manually enter connection parameters, like a network identifier.

While short-range NFC aims to mitigate many of these issues, it still requires specific hardware on both devices and only indicates a device's presence, not position. In addition, NFC is not commonly available on larger devices, such as laptops, tablets and interactive surfaces, which is what they're chiefly targeting.

"Smartphones and tablets could be paired with each other, and these devices could be paired to even larger touchscreens, such as smart whiteboards and touchscreen monitors."

The research was supported by the David and Lucile Packard Foundation, a Google Faculty Research Award and Qualcomm.

MIT Technology Review notes that previously, flashing lights have been used to pair devices and touch screens to track other devices, but CapCam is unique in its method for combining the two techniques. Next up: The team is interested in finding a commercial partner that wants to license the technology.

fiercewireless.com

Mergers and Acquisitions

Why Verizon Can't Quit Yahoo

December 15, 2016

It's time that we stopped beating up on Yahoo.

With the recent disclosure of another hacking of Yahoo, one potentially affecting more than a billion accounts, Verizon Communications has reiterated that it might seek to renegotiate its \$4.8 billion deal to acquire the beleaguered internet company. There is speculation that the company may even try to walk away from the deal.

And because this is Yahoo, market analysts and pundits have piled on. Jim Cramer of CNBC said "who can blame" Verizon for wanting to leave the deal. Shira Ovide, a Bloomberg Gadfly columnist, also seemed to endorse a Verizon exit and labeled Yahoo "the technology industry's most hapless company."

All of these people are buying into the easy narrative that Yahoo is a loser in the tech industry, unable to keep up with the likes of relative newcomers like Snap. Their conclusion is that Yahoo is simply getting what it deserves as its core business melts away and the company goes through one management change after another. The current chief executive, Marissa Mayer, is only the latest.

But if you dig into Yahoo's numbers, the business, once in rapid decline, is stabilizing. There has yet to be any significant sign that this hacking or the previously announced one have materially affected Yahoo's earnings or revenue.

Continue reading the main story

Given this, it seems that talk of Verizon being able to walk away from the Yahoo deal is overblown.

Admittedly, the latest Yahoo hacking looks awful at first blush. On Dec. 14, Yahoo announced that it appeared that "an unauthorized third party" stole "user information" from one billion accounts in 2013. Less than three months earlier, on Sept. 22, Yahoo disclosed a hacking of half a billion accounts that occurred in 2014.

These are big numbers, but they should be put in perspective. At this point in history, there have been repeated digital thefts of information, including from the Democratic National Committee. It is unclear how strongly users actually react to these types of disclosures. In its third-quarter earnings release, Yahoo noted that traffic on its site was slightly up even after news of the 2014 break-in was released. It is too soon to know the effect of the December news of another hacking, but there is no reason to think it will make any difference. People simply seem immune to this news by now.

Yahoo earned \$229 million in the third quarter, before income, taxes, depreciation and amortization, with revenue of \$858 million (both adjusted to take into account acquisition costs and other one-time earnings.)

These numbers were hailed as pretty good, within the midrange of Yahoo's estimates for 2016. Yahoo's free cash flow was also \$167 million, up from \$18 million in the third quarter of 2015. Ms. Mayer has tried to refocus Yahoo's business on the so-called Mavens (mobile, video, native and social). Here, the company appears to be stable. Mavens revenue has gone from almost nothing in 2012 to \$385 million in the 2016 third quarter. That was down 4 percent from 2015, but largely because of declines in video with the three other segments growing modestly.

Given Yahoo's more than one billion monthly active users and that there is so much uncertainty surrounding its business, it is hard not to view Verizon's deal as a bargain at \$4.8 billion. Snap has only 150 million active users and is being hyped as going public with a \$25 billion valuation at 25 times forecast revenue (Yahoo's buyout price is only about six times current revenue).

Even if Verizon has buyer's remorse, it is going to have a hard time walking away from this deal as a legal matter. Under the parties' acquisition agreement, Verizon can terminate only if there is a so-called material adverse effect to Yahoo. This is a defined term in the merger agreement that allows Verizon to quit the deal if something materially adverse happens to Yahoo and the event was not disclosed to Verizon before signing the agreement. What actually meets that definition is a legal question that would be decided by a Delaware court, which would look at whether the hacking was long term and durational. This is a high threshold. It is not a coincidence that the Delaware court has never found a material adverse effect to exist, though there is talk that the problems at Alere may be a material adverse change allowing Abbot to terminate its deal.

In the case of the Yahoo hackings, it doesn't appear that this threshold has been met.

The actual cost of the intrusion is also unlikely to be deemed a material adverse effect by the Delaware courts because, historically, these thefts have not been that expensive for big companies.

In 2013, Target said credit card information of tens of millions of customers was stolen. That cost Target an estimated \$252 million, but a tax deduction and insurance reduced that to \$105 million. The related litigation by customers settled for \$10 million, and lawsuits by banks and card companies affected by the breach settled for about \$100 million. Sony spent \$35 million to restore its systems after the hacking the following year. Other big break-ins at LinkedIn and Home Depot were even less costly relative to the billions of dollars in annual revenue these companies produce.

It is hard to see Yahoo incurring higher costs. These breaches happened more than three years ago. It is difficult to know or even trace any bad effect given the passage of time. Even if you could trace the effect, the hacked information in many cases is stale or unimportant. Yahoo said it included names, email addresses, telephone numbers, dates of birth, passwords and possibly encrypted or unencrypted security questions and answers. In the last three years, much of this information has changed, though admittedly birth dates have not.

Of course, this doesn't mean that Verizon isn't pursuing the possibility of using the material adverse effect clause to alter the deal terms. This is M&A Strategy 101. Verizon will most likely request as much information as possible from Yahoo to slow things down and make Yahoo nervous. According to the playbook, it will eventually claim that Yahoo is not complying with these information requests. That's probably what is going on now behind the scenes.

If Verizon is pursuing this strategy, it is doing so to cajole Yahoo's board into cutting \$1 billion to \$2 billion off the deal price just to be done with the matter. Yahoo's market capitalization of \$36.9 billion, because of its ownership of a minority stake in the Chinese e-commerce company Alibaba, makes \$1 billion a rounding error.

The parties have incentives, therefore, to simply recut the deal and lower the price or have Yahoo explicitly assume the direct liabilities related to the hacking. In Yahoo's case the biggest incentive is simply to end its long nightmare and move on.

But I'm hoping that Yahoo stays firm. Of all the internet 1.0 businesses — Lycos, Kozmo.com, broadcast.com, pets.com — Yahoo and Amazon are the only ones still standing. It is a credit to both companies, but also evidence that for all her faults, Ms. Mayer has stabilized a troubled business. And if the Yahooers actually believe this, Verizon will not have much to stand on.

If Yahoo stands firm right now and no new bad facts come out, Verizon will have to close or be forced by a court to do so. That Yahoo hasn't already sued to force a closing shows how gun-shy the company has become.

For the rest of us, we will have to wait. In the meantime, we should change our passwords.

nytimes.com

Industry Reports

2016 Cybercrime And Worst Hacks: Year In Review

December 21, 2016

It has already been a record-setting year for hacking scandals, and the headlines show no signs of slowing as we reach the end of 2016. Today's hack of Netflix's Twitter account by hacking collective OurMine is only the latest development in a year that has seen digital security become an issue of national security and election year politics.

OurMine, which is "a self-described white hat security group," said it was just testing Netflix security. The group suggested Netflix contact it to find out more about the hack. OurMine tweeted its message this morning, along with an email address and logo, to the nearly 2.5 million Twitter followers of @netflix, which is Netflix's U.S. account. "At least two more hacked tweets were sent. All of them have since been deleted, presumably by the Netflix social media team," according to CNET.

In previous years, most network intrusions have targeted enterprises and large corporations. But this year we saw a much more diverse field of victims, ranging from celebrities, technology CEOs, political parties, and even the Olympics.

Perhaps one of the most disturbing trends in 2016 has been the increased use of hacking to achieve geopolitical goals. Hacking groups linked to either the Kremlin or Russian president Vladimir Putin have been accused of reverting to Cold War tactics to weaken and delegitimize countries seen as political rivals.

A hack of the World Anti-Doping Agency's database, resulting in the publication of private medical records for several U.S. athletes, was attributed to a group of Russian hackers going by the names "Team Tsar" and "Fancy Bear." The group was also accused of hacking the Democratic Party's network to find embarrassing information about then-presidential candidate Hillary Clinton.

The attack against the Democratic Party and the Clinton campaign appear to have been part of an orchestrated effort by Russia to use cyberwarfare to undermine the U.S. electoral process. While it's impossible to say what, if any, effect the hack had on the election of Donald Trump, the hack has escalated tensions between the two countries and caused no small amount of alarm within the U.S. intelligence community.

"This year we saw a much more diverse field of victims, ranging from celebrities, technology CEOs, political parties, and even the Olympics."

And it isn't just national security that was in the spotlight in 2016. The year also saw a big jump in ransomware attacks, with individuals being targeted by hackers who encrypt their data in to extort cash out of them. Perhaps the largest such attack this year featured the San Francisco transit system, which was targeted by a ransomware attack that resulted in travelers receiving free rides over the Thanksgiving weekend.

Several high-profile individuals in the technology sector have also been targets of attacks this year, including Facebook CEO Mark Zuckerberg and Google CEO Sundar Pichai. And Twitter's former CEO Dick Costolo and current CEO Jack Dorsey also suffered from hacks.

Most of these attacks seem to have come from well-known hacking collectives such as OurMine. But an independent hacker going by the handle "Lid" was able to hijack the Twitter account of Oculus CEO Brendan Iribe.

Hacks weren't just about digital defacement and a chance to embarrass political opponents, though. This year also saw the second largest bitcoin hack in history, resulting in the theft of more than \$65 million of the cryptocurrency.

But it wasn't just digital currency that was stolen this year. A gang of Russian hackers also managed to break into more than 330,000 point-of-sale machines running software by Micros, an Oracle company. The hack hit cash registers used in food chains, hotels and retail stores.

And speaking of hotels, the U.S. hospitality industry suffered one of its largest hacks ever when 20 hotels owned by HEI Hotels and Resorts discovered malware running on point-of-sale machines used throughout the country. That hack may have resulted in the theft of customer data including account and credit card numbers.

This year there was even information about past traditional hacks involving the theft of users' email addresses and login information. Yahoo reported that in 2013, it suffered the largest breach in history, involving more than 1 billion user accounts. That exceeds the hack of 500 million accounts in 2014 that the company also reported this year.

mobile-tech-today.com

Business Smartphone Shipments Chug Along In 3Q, But Tablets Struggle

December 20, 2016

Shipments of business smartphones chugged along to deliver a "solid" performance in the third quarter, but business tablet sales continued to suffer, new reports from Strategy Analytics indicate.

During the most recent period, global business smartphone shipments grew 19.4 percent year over year to hit 112.2 million units, the firm said. Business tablet shipments, on the other hand, dropped nearly 13 percent from 19.3 million units the year before to just 16.8 million units.

Strategy Analytics Mobile Workforce Strategies Senior Analyst Gina Luk attributed the growth in business smartphone shipments to "strong uptake" among business users in the Asia-Pacific, Middle East, and Africa regions coupled with the launch of Apple's new iPhone 7.

"Android and iOS devices collectively claimed over 99.5 percent of worldwide business use smartphone shipments in Q3 2016, as Windows 10 smartphone shipments continued to slump and Blackberry announced its exit from manufacturing its own smartphones," Luk said.

Strategy Analytics noted the slump in tablet shipments stemmed from market saturation and lengthening product lifecycles.

“Business tablet performance in Q3 2016 was disappointing,” Andrew Brown, Strategy Analytics’ executive director of enterprise research, commented. “While Apple and Samsung continued to lead the business tablet market, iOS shipments plummeted 20.4 percent YoY, while Android business tablet shipments fell 14.1 percent.”

“One positive aspect was Microsoft, with Windows tablet shipments growing by 10.8 percent YoY,” Brown continued. “Windows share continues to improve as more models are launched by traditional PC vendors.

While some of this is cannibalization of the traditional business notebook market, it also shows that in business environments, other vendors are struggling to make stronger inroads into Windows-dominated client environments

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