TT Clips June 17 2016

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# Encryption

## [The Hill] CIA chief argues for action on encryption before Senate panel

Julian Hattem 16 June 2016

<http://thehill.com/policy/national-security/283739-cia-chief-argues-for-action-on-encryption-before-senate-panel>

The head of the CIA told congressional overseers on Thursday that the law is failing to keep up with rapidly evolving technology, potentially giving foreign terrorists an avenue to escape U.S. intelligence agents' eyes.

During his testimony before the Senate Intelligence Committee, John Brennan appeared to endorse bipartisan legislation that would create a commission examining how the government should exert authority over encrypted technologies that protect people’s data — even from government agents with a warrant.

“The one area when I look to the future that concerns me is that digital domain," Brennan testified.

“I do not believe our legal frameworks, as well as our organizational structures and our capabilities, are yet at the point of being able to deal with the challenges in that digital domain that we need to have in the future.”

In his remarks, Brennan waded into the thicket of arguments over the proliferation of encryption technologies, which shield people’s data from anyone without the password.

Lawmakers have struggled to deal with the wide adoption of encryption tools, torn between concerns of security and privacy. Critics of the trend say the digital barriers prevent government officials from gathering crucial evidence from criminals and terrorists. But defenders warn that undermining encryption would erode Americans’ rights to privacy and degrade security for everyone.

Sens. [**Dianne Feinstein**](http://thehill.com/people/dianne-feinstein) (D-Calif.) and [**Richard Burr**](http://thehill.com/people/richard-burr) (R-N.C.), the Intelligence Committee's leaders, have pushed for legislation that would require companies to provide [**“technical assistance”**](http://thehill.com/policy/cybersecurity/276181-senate-intel-panel-releases-official-encryption-bill-draft) to the government to unlock data in the course of an investigation. The legislation was made public on the heels of a high-profile legal fight between the FBI and Apple over the iPhone used by one of the killers in the San Bernardino, Calif., attack last year.

“What we had hoped is that we would start a national debate,” Burr said on Thursday.

But Brennan notably appeared to ignore that bill.

Instead, he praised details of [**legislation proposed by**](http://thehill.com/policy/cybersecurity/270624-lawmakers-pitch-compromise-encryption-bill) Sen. [**Mark Warner**](http://thehill.com/people/mark-warner) (D-Va.) and House Homeland Security Committee Chairman Michael McCaul (R-Texas), which declines to set a specific requirement for tech companies and instead calls for a commission to study the issue.

“I don’t know what the best way is, but I know that it has to be an effort undertaken by the government and the private sector in a very thoughtful manner that looks at the various dimensions of the problem and is going to come forward with a number of options — recommendations,” Brennan said.

“A congressional commission on this issue is something that really could do a great service,” he added. “There needs to be an understanding between the private sector and the government about what our respective roles and responsibilities are going to be and be able to find some kind of solution that’s able to optimize what it is we’re all trying to achieve.”

## [Christian Science Monitor] The FBI needs better hackers to solve encryption standoff, research says

Joshua Eaton 16 June 2016

<http://www.csmonitor.com/World/Passcode/2016/0616/The-FBI-needs-better-hackers-to-solve-encryption-standoff-research-says>

In the high-profile standoff over cracking the San Bernardino shooter's iPhone, Apple and other major American tech companies made it clear that they wouldn’t build specia**l** access for the US government – or anyone else – into their products.

But one leading cybersecurity expert says there's another way for law enforcement to get the content they need for their criminal and terrorist investigations, without compromising the security of the millions of other consumers who also use those products.

Susan Landau, a professor of cybersecurity policy at Worcester Polytechnic Institute, says in a new paper released Thursday that the FBI and other domestic law enforcement agencies should double down on hiring government hackers and building in-house expertise to legally hack these devices when they have a warrant.

In a [paper published](http://science.sciencemag.org/cgi/doi/10.1126/science.aaf7708) in the journal Science**,** Ms. Landau argues that FBI investigators should take advantage of existing software vulnerabilities – rather than try to force companies to overhaul their systems to include a so-called government "backdoor" in their products, which she says would have a "devastating" effect on consumer security.

"When law enforcement says that they absolutely must have content, then lawful hacking provides a way to get there," Landau told Passcode.

The FBI ended up relying on this strategy during the legal standoff with Apple. The Justice Department dropped its case against Apple in March, after the bureau hired still-unnamed hackers to find a way around the security measures on the iPhone 5c used by one of the San Bernardino shooters who killed 14 people in a winter terror attack.

Because those contracted hackers were successful, the government was able to access the contents of the suspect's phone – and Tim Cook, Apple's chief executive officer, avoided the possibility a court could force him to build a weaker version of his product that, in the wrong hands, could get around security measures on all sorts of Apple devices other than the one in police custody.

Now, Landau wants to see the government build up its own capabilities so it will rely less on third parties.

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The FBI can do an end-run around encryption by heavily investing in court-approved lawful hacking capabilities, Landau says, such as installing remote surveillance software on computers and phones and hiring more agents with computer science backgrounds who fully understand the tools developed by FBI consultants.

This would be preferable, she insists, to the approach advocated by FBI Director James Comey and some [key Senate leaders on Capitol Hill](http://motherboard.vice.com/read/leaked-burr-feinstein-encryption-bill-is-a-threat-to-american-privacy) to mandate companies to have ways for agents to access encrypted content when they have a warrant. Landau agrees with the tech companies and privacy advocates who insist these kinds of channels would endanger consumer security by giving criminal hackers or other governments more avenues to try to exploit, spur consumers [to lose trust in American business](http://passcode.csmonitor.com/cryptowars), and even [expand government surveillance powers](http://www.csmonitor.com/World/Passcode/Passcode-Voices/2016/0419/Opinion-Burr-Feinstein-antiencryption-bill-a-firing-offense).

The FBI used hacking software as part of a 2003 investigation to gain access to the encrypted communications of animal rights activists the agency was investigating for sabotage of a company that tested pharmaceuticals on animals, according to [The New York Times.](http://www.nytimes.com/2016/04/14/technology/fbi-tried-to-defeat-encryption-10-years-ago-files-show.html)

Stymied by the encryption that made the suspects' emails unreadable, a judge let the FBI install software on their computers from afar, which the Times says allowed them to intercept the conversations before they were sent – and encrypted.

It’s difficult to know how the FBI’s hacking capabilities have evolved since then, according to Landau. The bureau has fought to keep these kind of investigative techniques secret, she says.

Even so, the agency's insistence that it could not break into the San Bernardino iPhone without Apple's help – and its reliance on an outside company to finally crack it – suggests that it's behind the curve. "One can guess from the concerns that the FBI raises that it's behind. But one doesn't have explicit examples of that," Landau said.

For its part, the bureau is increasing its budget for lawful hacking operations. Currently, 11 FBI agents have a budget of $31 million to defeat encryption, anonymization, and similar challenges, Landau’s report said. The agency has requested an increase of funding to $38.3 million for 2017, but did not request any additional staff.

But these numbers seem paltry compared to funding for its other efforts. By comparison, Landau writes, the bureau currently devotes $297.8 million and 549 agents to physical surveillance.

The apparent lack of resources available for the FBI’s lawful hacking program might shed some light on why the FBI would prefer the companies take on the responsibility of building in access for the government, Landau says. "The inadequacy of the [lawful hacking] effort may go a long way toward explaining the FBI’s current view of encrypted communications and secured devices," she writes.

While many civil libertarians have publicly voiced their support of lawful government hacking as an alternative to forcing companies to build in backdoors, there could also be significant downsides to this approach, argued Benjamin Wittes, a senior fellow in governance studies at the Brookings Institute.

"Be careful what you wish for," Mr. Wittes wrote in a January [analysis](https://www.lawfareblog.com/be-careful-what-you-wish-device-hacking-and-law) of lawful hacking proposals. Broad language in the federal Wiretap Act and Foreign Intelligence Surveillance Act, means the government might end up with significantly more power to demand companies assist in these kinds of investigations – including controversial tactics such as installing surveillance malware onto their users’ devices to monitor their activity.

"When civil libertarians and cryptographers talk about lawful hacking, what that may mean in practice is the government's commandeering companies into compromising their users' devices," Wittes wrote. "Is a regime in which companies may have to do these things better or worse from a civil liberties perspective than a regime under which they have to help with decryption?"

The FBI declined to comment on lawful hacking or on Landau’s report. However, Amy Hess, executive assistant director of the FBI’s science and technology branch, told a congressional committee in April that building up the agency’s hacking capabilities isn’t a long-term solution to the fact that agents are "going dark" in their pursuit of suspects due to widespread encryption.

"Identifying these vulnerabilities and developing lawful intercept or lawful access solutions can take an unacceptable amount of time, require significant skill and resources, and the results of these efforts can be ephemeral, at best," Hess [told](http://docs.house.gov/meetings/IF/IF02/20160419/104812/HHRG-114-IF02-Wstate-HessA-20160419.pdf) the House Committee on Energy and Commerce Subcommittee on Oversight and Investigation.

But Landau wants the bureau to aim higher. "The FBI must develop 21st Century investigative savvy," Landau concluded. "This will require government investment, but the alternative, of permitting bad actors to access our systems, is unacceptable."

# Drones

## [Business Insider] Amazon and Google could start testing drones in China

Andrew Meola 16 June 2016

<http://www.businessinsider.com/amazon-and-google-could-start-testing-drones-in-china-2016-6>

JD.com, one of the largest online retailers in China, launched its drone delivery service in China's rural Jiangsu province.

The drones will ferry packages from central distribution centers to other distribution centers in rural areas, according to Xinghuanet. This should lower delivery costs by about half to less than eight cents a package, according to the vice president of JD.com.

These drones can carry packages up to 33 pounds at speeds up to 34 miles per hour and a maximum distance of 12 miles. On top of that, the drones can reduce total delivery times between distribution centers from multiple hours to less than 20 minutes.

Importantly, the actual delivery to consumers will still occur through ground transportation.

Amazon and Google have been testing their own drone delivery systems (Prime Air and Project Wing, respectively) but have not been able to fight the heavy FAA regulations in the U.S. These rules state that a drone's pilot must be able to see the drone at all times, which means drone delivery is impossible. Furthermore, it's unclear if or when the FAA would adjust its rules to facilitate drone deliveries in the U.S.

Therefore, Amazon and Google could consider China as a potential location to test their drone delivery programs.

Drones turned the corner in 2015 to become a popular consumer device, while a framework for regulation that legitimizes drones in the US began to take shape. Technological and regulatory barriers still exist to further drone adoption.

Drone manufacturers and software providers are quickly developing technologies like geo-fencing and collision avoidance that will make flying drones safer. The accelerating pace of drone adoption is also pushing governments to create new regulations that balance safety and innovation.

Safer technology and better regulation will open up new applications for drones in the commercial sector, including drone delivery programs like Amazon’s Prime Air and Google’s Project Wing initiatives.

Jonathan Camhi, research analyst for [BI Intelligence](http://www.businessinsider.com/intelligence/bi-intelligence-iot-research-bundle?IR=T&utm_source=businessinsider&utm_medium=content_marketing&utm_term=content_marketing_subscription_text_link_amazon-and-google-could-start-testing-drones-in-china-2016-6&utm_content=subscription_content_marketing_text_link&utm_campaign=content_marketing_subscription_link&vertical=iot), Business Insider's premium research service, has compiled [a detailed drones report](http://www.businessinsider.com/intelligence/research-store?IR=T&utm_source=businessinsider&utm_medium=content_marketing&utm_term=content_marketing_store_text_link_amazon-and-google-could-start-testing-drones-in-china-2016-6&utm_content=report_store_content_marketing_text_link&utm_campaign=content_marketing_store_link&vertical=iot#!/The-Drones-Report/p/47962272) that forecasts sales revenues for consumer, enterprise, and military drones. It also projects the growth of drone shipments for consumers and enterprises.

The report details several of world’s major drone suppliers and examines trends in drone adoption among several leading industries. Finally, it examines the regulatory landscape in several markets and explains how technologies like obstacle avoidance and drone-to-drone communications will impact drone adoption.

*Here are some of the key takeaways from the report:*

* We project revenues from drones sales to top $12 billion in 2021, up from just over $8 billion last year.
* Shipments of consumer drones will more than quadruple over the next five years, fueled by increasing price competition and new technologies that make flying drones easier for beginners.
* Growth in the enterprise sector will outpace the consumer sector in both shipments and revenues as regulations open up new use cases in the US and EU, the two biggest potential markets for enterprise drones.
* Technologies like geo-fencing and collision avoidance will make flying drones safer and make regulators feel more comfortable with larger numbers of drones taking to the skies.
* Right now FAA regulations have limited commercial drones to a select few industries and applications like aerial surveying in the agriculture, mining, and oil and gas sectors.
* The military sector will continue to lead all other sectors in drone spending during our forecast period thanks to the high cost of military drones and the growing number of countries seeking to acquire them.

## [USA Today] NASA studies air-traffic control for drones

Bart Jansen 16 June 2016

<http://www.usatoday.com/story/news/2016/06/16/nasa-studies-air-traffic-control-drones/86008638/>

WASHINGTON – Call it the drone zone. NASA researchers are studying ways to safely manage flights of remote-controlled aircraft as the skies grow more crowded below 500 feet.

The effort may sound futuristic with only 5,300 commercial permits granted nationwide by theFederal Aviation Administration. But Parimal Kopardekar, NASA’s principal investigator for drone traffic management, told a conference Thursday of the American Institute of Aeronautics and Astronautics that an estimated 2.7 million commercial drones will be flying by 2020.

The FAA typically requires drone operators to keep the aircraft within sight during daylight hours and less than 500 feet above ground. Hobbyists follow similar rules.

Kopardekar said the goal of air-traffic control for drones is to allow flights farther than the operator can see – and perhaps at night – in much more crowded skies. His cautionary tale is that even though the skies seemed empty in 1956, two airliners collided above the Grand Canyon and spurred the creation of the air-traffic control system.

“That is what we’re trying to avoid,” Kopardekar said.

In contrast to airliners, the FAA isn’t expected to guide drones itself. NASA is helping the FAA develop rules of the road, which operators such as proposed delivery services from Amazon, Google and Walmart could adopt in order to fly safely and reliably.

With thousands of companies flying independently, with different equipment and different ways of using it, answers could be complicated. The research with 200 collaborators including the FAA and the Defense Department could determine how multiple operators and aircraft communicate with each other to avoid each other's flight paths, while also providing warnings about bad weather such as wind or icing.

“It really will be an information service,” said John Hansman, an aeronautics professor at Massachusetts Institute of Technology.

NASA concluded field testing in August 2015 and is continuing more testing at an FAA site about programming called “geofencing” that prevents drones from flying in restricted areas.

More tests scheduled for October will focus on flying farther than the operator can see in sparsely populated areas. Tests scheduled for January 2018 will focus on keeping space between drones that have lost their link to their operators over moderately populated areas.

Sean Cassidy, director of strategic partnerships for Amazon Prime Air, said his company will likely use different types of aircraft for different deliveries.

“We’re going to deliver to the most-safe location possible,” said Cassidy, a former airline pilot.

“We want to be good neighbors,” he added, when asked about public concerns with drones flying in congested skies over urban areas.

Craig Marcinkowski, director of business development for Gryphon Sensors, which provides drone surveillance for the Army and others, said a $250 million program in New York State aims to create a traffic management system in cooperation with NASA and FAA for drones to fly farther away than operators can see.

“Building that out and certifying it within five years is the goal of the program,” he said.

Even before rules are set, demand is growing. Legislation approved in the Senate and awaiting House action calls on the Transportation Department to develop regulations within two years for commercial drone deliveries.

The FAA is expected to complete its first general regulations this month for commercial drones weighing up to 55 pounds, with rules similar to the 5,300 individual permits already granted. The comprehensive rule is expected to open the floodgates for commercial uses.

“We simply don’t have the option of doing nothing,” Cassidy said.

## [WSJ] Obama’s Drone Revamp Gives Military Bigger Responsibility, Keeps CIA Role

Adam Entous and Gordon Lubold 16 June 2016

<http://www.wsj.com/articles/barack-obamas-long-awaited-drone-program-revamp-preserves-a-cia-role-1466088122>

WASHINGTON—A [long- promised plan](http://www.wsj.com/articles/SB10001424127887323975004578501360528403172) by President [Barack Obama](http://topics.wsj.com/person/O/Barack-Obama/4328)to shift control of drone campaigns around the world gives the U.S. military more responsibility but retains a Central Intelligence Agency role in the targeted-killing program, according to officials briefed on the arrangement.

Mr. Obama’s plan settles a three-year turf battle among the CIA, the Pentagon and a divided Congress over whether the time has come to scale back the CIA’s quasi-military role 15 years after the attacks of Sept. 11, 2001.

The revamp stops short of giving the U.S. military’s Joint Special Operations Command the full control of the drone wars that its congressional backers have sought. It also deals a setback to advocates inside and outside the administration for ending CIA involvement in lethal action so the agency can refocus on its core mission of gathering and analyzing intelligence.

The turf fight between JSOC and the CIA over drones highlights how government agencies and their supporters in Congress compete with one another for counterterrorism resources and, in this case, authority over the coveted role within the bureaucracy of pulling the trigger.

When JSOC argued for taking over the program, the CIA and its allies pushed back. Mr. Obama settled for a compromise that gives JSOC control in most conflict areas but lets the CIA operate its own armed drones in at least two of them.

Under the White House plan, the CIA will keep its drone fleet and continue to run its covert targeted-killing program in the tribal areas of Pakistan, though the scope of the campaign there has narrowed significantly in recent years, the officials said.

In Yemen, the CIA will continue to fly its drones in search of wanted militants alongside JSOC’s drones. But under the White House compromise, JSOC will assume control of the CIA aircraft midflight and launch the missiles to take out the targets, the officials said.

The last-minute handover from CIA to JSOC in Yemen means the U.S. military will technically be responsible for all strikes in the country—even when the CIA’s drones and intelligence are used. That would allow the operations to be disclosed after the fact, whereas they would remain covert if the CIA launched the missiles.

In keeping with Mr. Obama’s 2013 pledge to give the U.S. military the lead and to increase transparency of U.S. drone operations, the plan puts JSOC in control of targeted-killing campaigns in other conflict areas, including Libya and Somalia, as well as the active war zones in Iraq, Syria and Afghanistan. In those theaters, the CIA and other U.S. intelligence agencies provide support to JSOC.

White House National Security Council spokesman Ned Price declined to comment on the details of Mr. Obama’s drone plan, which the administration intended to keep secret.

But Mr. Price said: “The president has been clear that we must be more transparent about both the basis of our counterterrorism actions and the manner in which they are carried out. As part of this commitment to transparency, the president has said that he will increasingly turn to our military to provide information to the public about our efforts.”

Spokesmen for the CIA and the Pentagon declined to comment.

Jennifer Gibson, staff attorney at the human rights group Reprieve, said the move won’t protect civilians in countries where the U.S. uses armed drones, calling it a “mere shift in who pulls the trigger.”

Mr. Obama gave the CIA free rein when he came into office in 2009 to ramp up its drone campaign in the tribal areas of Pakistan and kill suspected militants threatening U.S. forces in neighboring Afghanistan.

The CIA’s aggressive approach decimated al Qaeda, but it also fueled anti-American sentiment in Pakistan, undercutting U.S. efforts to use billions of dollars in aid to encourage Islamabad to close ranks with Washington against militant groups.

“When we were growing up, we learned the American values that were preached and you always thought that the Soviets were the bad guys and the Americans were the good guys,” Pakistani politician Imran Khan, a former cricket star, said in an interview with The Wall Street Journal. “That image is gone.”

Mr. Obama’s call to “transition” the drone program to the U.S. military from the CIA dates back to a major address at the National Defense University in May 2013.

Mr. Obama concluded that the lack of transparency surrounding the drone campaigns fueled misperceptions in Pakistan and Yemen that the strikes caused large numbers of civilian casualties, undermining U.S. credibility.

CIA strikes are covert operations, preventing U.S. officials from discussing them publicly. Shifting control of the drone programs to the U.S. military would give officials the leeway to talk about the operations after the fact, at least in vague terms, to counter the narrative that the U.S. was being heavy-handed.

Aides say Mr. Obama didn’t appreciate at the time of his National Defense University speech how intently the CIA and its backers in Congress would resist the proposed changes.

A behind-the-scenes battle ensued, pitting JSOC and its congressional allies against the CIA and its allies in the House and Senate intelligence committees. JSOC and its supporters wanted to take ownership of the drone wars and sideline the CIA. “Give it to us,” a U.S. official said of JSOC’s message to Congress.

JSOC had wanted to develop its own targeting information rather than rely on the CIA’s out of concern that the military would be blamed for any mistakes, the officials said.

The CIA and its congressional allies pushed back, arguing that JSOC didn’t have the capabilities to find high-value targets and then launch precision strikes that minimized the risk of civilian casualties. They pointed to strikes in Yemen by JSOC that drew fire from human-rights groups for causing civilian deaths.

Shifting control to JSOC would be dangerous, the CIA’s backers in Congress argued, asserting that a strike was 99% intelligence-gathering, which was in the spy agency’s wheelhouse. For CIA leaders, the drone program was a source of institutional pride that bolstered the spy agency’s standing in the wake of the Sept. 11 attacks and criticism over its handling of intelligence on Iraq.

Officials say JSOC has gradually expanded its intelligence-gathering capabilities, closing the gap with the CIA in some areas.

In 2013, administration officials privately advocated “sunsetting” the CIA’s drone campaign in the tribal areas of Pakistan at the end of 2014, when Mr. Obama hoped to withdraw U.S. forces from Afghanistan. Those [withdrawal plans were scrapped](http://www.wsj.com/articles/in-major-afghanistan-shift-obama-drops-plan-to-withdraw-most-u-s-forces-1444903203), along with talk of ending the CIA program in the tribal areas of Pakistan in the near term.

U.S. officials said Mr. Obama never pledged to end the CIA’s role in the drone campaign. Rather, they said, he has gradually scaled back the scope of the CIA’s program in Pakistan’s tribal areas by limiting the number of targets on the spy agency’s so-called kill list.

But outside those areas of Pakistan, Mr. Obama has signaled his preference to use JSOC, rather than the CIA, to take out high-value targets, as he did in May when [U.S. military drones killed Taliban leader](http://www.wsj.com/articles/taliban-leader-mansour-likely-killed-in-u-s-airstrike-officials-say-1463864714) Mullah Akhtar Mansour in Pakistan’s Baluchistan province.

# Cybersecurity

## [USA Today] Silicon Valley has a chance to influence cyber security policy: column

John Shinal 16 June 2016

<http://www.usatoday.com/story/tech/columnist/shinal/2016/06/16/silicon-valley-has-chance-influence-cyber-security-policy-column/85973222/>

U.S. cybersecurity policy has followed  a Jekyll-and-Hyde path lately.

In December, Congress passed a bill making it easier for U.S. software companies to hold onto their proprietary technology, to encourage them to share data on cyber threats. It was part of a new push for open cybersecurity standards to help combat rapidly-evolving threats.

In April, however, [the Senate Intelligence Committee introduced a bill that would force U.S. companies to provide backdoor access](http://www.usatoday.com/story/news/politics/2016/04/08/proposed-senate-bill-would-require-tech-companies-break-encryption/82798862/) to encrypted data to law enforcement in response to a warrant.

While the legislation has yet to go to a full committee vote, it's sponsored by the committee's chair, Richard Burr, Republican of North Carolina, and Dianne Feinsteinof Calif., its ranking Democrat. The bill would weaken the competitiveness of products of domestic firms relative to foreign rivals whose software is not subject to such coerced hacking.

Yet true to the current carrot-and-stick-and-carrot approach this Congress has taken, last week the House Committee on Homeland Security introduced its own bill that would "take much-needed strides toward fixing the procurement challenges of cybersecurity startups," according to a letter sent by the National Venture Capital Association in support of the bill.

The mish-mash of legislation is a sign, some say, that Silicon Valley in general and the cybersecurity sector in particular need to do a better job of lobbying Washington, where the White House budgeted $14 billion in spending on cybersecurity for this fiscal year.

"The relationship between the industry and the government has been a bit flawed," says Ray Rothrock, CEO of security startup RedSeal and a former full-time venture capitalist.

Those within Silicon Valley who care about how the federal government regulates and purchases security software will soon get arguably their best chance yet to influence U.S. encryption policy — at least within the Executive Branch.

On Tuesday morning, June 21, the Commission on Enhancing National Cybersecurity will hold its first west coast meeting at the International House on the campus of UC Berkeley, starting at 9 a.m.

Those who want to can RSVP for the meeting here: <https://cltc.berkeley.edu/2016/06/03/commission-rsvp/>

President Obama, when he created the panel earlier this spring, charged it with identifying what systems America should build to keep the country safe from cyber threats.

Given that a growing percentage of the U.S. public and private sectors have been hacked this decade, it's good that the White House is showing more interest toward that end.

And with [Russian hackers recently able to steal from the Democratic National Committee's own systems](http://www.usatoday.com/story/news/politics/elections/2016/06/14/russia-hack-democratic-national-committee-trump/85867116/) as successfully as the [North Koreans lifted from Sony Pictures' network last year](http://www.usatoday.com/story/news/nation-now/2014/12/18/sony-hack-timeline-interview-north-korea/20601645/), this is likely too important a job to leave to a government commission.

Indeed, unless the National Security Agency, the Central Intelligence Agency or Naval Intelligence plan to start selling their best hacks, the American private sector's own best defense against foreign cyber attackers will likely be itself.

The effort is clearly needed.

The current legal battles between the FBI and Apple in dozens of courtrooms over encryption warrants have been the most visible signs of the complex relationship between this administration and the security software sector.

Yet while Apple's fight is crucial, given that most Americans own a smartphone, the world's most valuable tech firm is still just one in a sea of firms making such products.

More than 1,000 companies came to the RSA Conference in San Francisco earlier this year, drawn by a market that's expected to grow 6.2% a year on average and reach $66 billion by 2020, according to a report from Market Research Media Ltd.

Some security market niches are growing much faster.

Northern California startups, such as the publicly traded Apigee ([APIC](http://www.usatoday.com/money/lookup/stocks/APIC/)) of San Francisco or privately-held Egnyte of Mountain View, are growing revenue more than 30% a year, according to their CEOs and Wall Street analysts.

Keeping those markets free of stifling rules in an age when terrorism fears are trumping privacy concerns will be no easy task. Nor will be making it easier for U.S. startups to secure federal contracts.

But it's work the industry should and can do by delivering those messages during the White House's commission meeting in Berkeley next week.

# Autonomous Vehicles

## [The Verge] This autonomous, 3D-printed bus starts giving rides in Washington, DC today

Tamara Warren 16 June 2016

<http://www.theverge.com/2016/6/16/11952072/local-motors-3d-printed-self-driving-bus-washington-dc-launch>

Local Motors, the Arizona-based automaker that crowdsources vehicle design, has introduced a 3D-printed, autonomous, electric shuttle bus that is partially recyclable called Olli. Local Motors says that it's the first vehicle to use [IBM Watson’s](http://www.theverge.com/2015/12/1/9826222/first-click-ibms-watson-is-too-elementary) car-focused cognitive learning platform, Watson Internet of Things (IoT) for Automotive.

It’s a boxy, far-out concept that may be the first of its kind, but that’s the point for a company that isn’t focused only on making vehicles — it’s about remaking the car manufacturing business. If all goes according to plan, Olli will be giving autonomous rides at the company’s introductory event on the new National Harbor campus today. The facility, located less than 10 miles from Washington, DC, is part 3D printing demo lab and part inventor playroom, including a new STEM program for kids that demonstrates recycling of printed cars.Local Motors also plans to open new facilities in Knoxville and Berlin this year.

Yesterday, I visited the National Harbor facility, where final tweaks were being made on the 12-seat Olli for the unveiling. The place was bustling with workers who were wiring the minibus with sensors for self driving. Local Motors executives were getting ready for their most high-profile event to date perhaps since the [Rally Fighter](http://rallyfighter.com/) (which plays a part in next year’s *Fast 8*) was first shown in 2009. The Olli will be giving passengers demo rides here throughout the summer. In addition, visitors to the National Harbor will be able to view 3D-printing capabilities first used in the [Strati](http://www.theverge.com/2015/1/13/7539341/3d-printed-car-local-motors-strati-naias-2015) in 2014 onsite, and experiment with 3D printing themselves.

CEO and co-founder John B. Rogers, Jr. stopped by to chat with me for a moment. "There is no more connected technology possible than a car, you just have to make it work," he says. "The Strati is the idea of what does a $5,000 car look like? And an Olli is, what does it mean to share [a car]? The future is full of both. In the future, it is shared transportation that is organizationally owned, there will be shared transportation that is privately owned, and then there will be transportation that is not shared that is privately owned. We’ll have all these."

"THERE IS NO MORE CONNECTED TECHNOLOGY POSSIBLE THAN A CAR, YOU JUST HAVE TO MAKE IT WORK."

Local Motors will also extend its practice of using "microfactories" to build more than rendered designs. "We’ve just taken control of our first powertrain and our communities will open-source the powertrain," Rogers says. "Once you control the powertrain, then we control the building of the vehicle. The motor and the sensors and electronics is something we can partner very well with other people. And we can buy the battery from a lot of people, whether it’s Tesla Energy or Samsung SDI."

But crowdsourcing is a key concept of Local Motors’ approach. ("It’s why we’re here, says one Local Motors staffer.) The designer of the Olli, Edgar Sarmiento, a Colombian-born Italian car design student, had just arrived and seen the results of the first printing of his work, and had a somewhat stunned smile. He will earn royalties from his winning submission. "I tried to make this vehicle flexible to a lot of things," he told me. "This one is a public solution for cities. It’s simple, minimalistic, to make a shape like a box, and all of this related to the use of the product. I was born in Bogotá, a big city that is going to reach 10 million people. It’s a context to start to think of problems in the city as far as transportation and to think of solutions."

Also on site was Bret Greenstein, vice president of IBM IoT, who explained how Olli would use sensors and speech-to-text to learn about its passengers. "We do everything through voice and we translate language and combine it with other data," he says. "We’ll try to build as much of the experience and let the vehicle know about you so it can build your experience — favorite restaurant, what dry cleaner you use. There’s things you can define in a profile, or things you can learn as you go."

The speed at which Local Motors works helps the company to appeal to fast-moving tech partners. "Technology providers see us as a way to get their products to market," Justin Fishkin, Local Motors' Chief Strategic Officer, told me. "Two weeks ago we started building this vehicle. This is the world’s first autonomous on-demand shuttle. So basically you call it on an app and it picks you up just like Uber and it will talk to you."

Fishkin told me the company has built the first two Olli units. Local Motors is working with municipalities including Miami-Dade and Las Vegas, who will develop programs around the bus. "Our business model is that we sell before we make, so we don’t have the inventory." And the company has already taken its manufacturing concept beyond road vehicles: it's currently in the judging process of a drone design competition in partnership with Airbus, and has ventured into the appliance space through its FirstBuild program with General Electric, which has invested in Local Motors.

"THIS IS THE WORLD’S FIRST AUTONOMOUS ON-DEMAND SHUTTLE."

Despite (or maybe thanks to) its expansive network of crowdsourced contributors, Local Motors only employees 130 workers. "This vehicle is the culmination," Fishkin says. "First we proved that you could put a car on the road by committee, which nobody said was possible. Then we showed that you could crowdsource a military vehicle in two months and people thought we were a military vehicle company. We proved that digital manufacturing could be even faster. As Silicon Valley and Detroit converge, we sit nicely in the middle. It just so happens that this is as relevant to the current demand on the market as it could be."

## [TechCrunch] Liability in the coming age of autonomous autos

Kristen Hall-Geisler 16 June 2016

<https://techcrunch.com/2016/06/16/liability-in-the-coming-age-of-autonomous-autos/>

While we are many years away from an autonomous utopia, where cars pick us up and drive us where we need to go without a human at the wheel, we are seeing the first steps toward self-driving cars. [Volvo](https://techcrunch.com/2016/05/10/semi-driving-the-semi-autonomous-2016-volvo-xc90/), [Honda](https://techcrunch.com/2016/03/18/2016-honda-civic-autonomous-features-for-20k/), [Audi](https://techcrunch.com/2016/01/04/audi-leads-28m-investment-in-rental-startup-silvercar/), [Tesla](https://techcrunch.com/2015/03/19/the-tesla-model-s-will-get-early-autopilot-mode-in-about-three-months/)—pretty much every auto manufacturer, plus [Google](https://techcrunch.com/2016/06/01/an-open-letter-to-tesla-and-google-on-driverless-cars/) and probably [Apple](https://techcrunch.com/2016/06/01/elon-musk-doesnt-think-google-will-compete-with-tesla-but-apple-could/)—is incorporating advanced driver assistance systems (ADAS) into cars we can buy right now.

As humans transfer driving tasks to computers, it raises questions for the insurance industry. There will still be crashes on the way to that autonomous utopia, and insurance companies want to know who’s going to pay. Volvo, for one, has stepped up to say that when one of its vehicles is in autonomous mode, [Volvo is responsible](http://fortune.com/2015/10/07/volvo-liability-self-driving-cars/) for what happens. But that’s a rarity so far.

Does the liability lie with the human for not overriding the system? The manufacturer for not testing thoroughly enough? The Tier 1 supplier of sensors? The company that supplied the Tier 1 supplier with a part for the sensor? And at what point should insurers panic?

Andrew Rose of[Compare.com](http://www.compare.com/), an insurance comparison site, tells insurers, “You need to be completely freaked out by the idea of autonomous cars—and completely relaxed.” He said in a phone interview that in 30 years, it’s likely most of the auto insurance business will be gone. Autonomous vehicles will wreck less over time, which means lower premiums will be required to cover losses, and therefore less auto insurance will be required. “Insurers can relax,” Rose said, “because it’s going to take time to get there.”

Compare.com is part of the [Admiral Group](https://admiralgroup.co.uk/), one of the largest motor insurance companies globally. In preparation for our interview, Rose, who happened to be at Admiral HQ in the UK, asked to pull information on all the accidents that involved autonomous claims. He was told, “We don’t have any yet,” though there are millions of vehicles in the United Kingdom covered by Admiral Group. “People aren’t making those claims yet,” Rose told me, “But it’s out there on the horizon.”

One reason claims aren’t being made yet is that manufacturers are being incredibly cautious about releasing this technology to the marketplace because of the huge implications of getting it wrong. Volvo has been working on its autonomous system for a decade or more, giving it the confidence to accept liability. “Getting little things wrong is no big deal,” Rose said, “but if adaptive cruise control fails, that could be catastrophic.”

While we wait for an all-autonomous future, insurance companies are likely going to want to find the car manufacturer at fault because they want to find somebody else to pay for the accident. “Volvo says that while in autonomous mode, we are responsible,” Rose noted. “But they’re not going to let you break the law. The system won’t let you do 66 mph in a 65-mph zone.”

That becomes tricky on this path to autonomy, because in the intervening years, autonomous cars are more likely to get in accidents—through no fault of their own. “They get hit more,” Rose said, “because they do exactly what the law prescribes.” This is exactly the situation that the Google car found itself in when it [collided with that bus](https://techcrunch.com/2016/02/29/googles-self-driving-car-gets-into-a-minor-accident-while-the-ai-was-driving/). “This is the ball of yarn that we’re pulling one thread on right now,” Rose said. “It’ll be much easier when more autonomous cars are interacting with each other.”

## [NY Times] Skeptics of Self-Driving Cars Span Generations

John Quain 16 June 2016

<http://www.nytimes.com/2016/06/17/automobiles/wheels/skeptics-of-self-driving-cars-span-generations.html?_r=0>

The technology to make autonomous cars a reality may be ready, but American drivers don’t seem to be.

From smartphone-addicted teenagers to researchers designing the next generation of self-driving vehicles, there’s a fair amount of skepticism among consumers when it comes to letting go of the wheel and allowing a car to do the driving, several surveys over the last year have found. Even engineers have some qualms.

“I have no problem letting a car take control,” said Jeffrey Miller, an associate professor of engineering practice at the University of Southern California. “But having a car take my kids to school? You’re talking about people who don’t have the ability to take over if something goes wrong. I’m not that comfortable with it.”

That sentiment was echoed in a survey of over 400 respondents by IEEE, the professional engineering organization, that grew out of a round table that Professor Miller took part in. On a scale of 1 to 5 — with “very comfortable” being a 5 — more than two-thirds of the experts in the study said they weren’t ready to have a robotic car play nanny, giving the concept a 3 or lower. Not exactly a ringing endorsement from engineers of the state of the art in self-driving cars.

“It’s not the technology. It’s user acceptance that’s holding us up right now,” Professor Miller said.

This is not to say experts and consumers don’t see potential benefits.

Scott Fischer, 55, the chief executive of a privately held recruiting firm in Chicago, foresees a variety of situations in which autonomous vehicles would be a major advantage. “I’m not skeptical at all,” Mr. Fischer said.

Mr. Fischer, who took part in a study of older drivers conducted by the Massachusetts Institute of Technology’s AgeLab and the Hartford Center for Mature Market Excellence, part of the insurance company The Hartford, said autonomous cars could give him more peace of mind about his two daughters, who are in their 20s and have limited driving experience. “They don’t drive as much they take Uber,” he said, “so I see the safety aspects.”

For his father, who is in his early 80s and facing driving challenges because of vision issues, an autonomous vehicle would be a way to get around on his own, Mr. Fischer said. And for his own part, Mr. Fischer would let the car take over when he was tired on a long drive or needed to read email.

“But I want to see proof of concept that the technology actually works,” he added.

Joseph Coughlin, director of the M.I.T. AgeLab, said that for the study’s participants, who ranged in age from 50 to 69, there was no reflexive aversion to technology-assisted driving. “If they see it as useful or enhancing safety,” he said, “they’re willing to pay for it.”

Jodi Olshevski, a gerontologist and executive director of the Hartford Center, said that, in general, people over 50 expressed the most interest in technology that alerts drivers to vehicles in their blind spot, said “It was naturally appealing to them since there’s often a reduced range of motion” in older drivers, Ms. Olshevski noted.

More than two-thirds of the experts in the study said they weren’t ready to have a robotic car play nanny.CreditJake Michaels for The New York Times

Still, even older drivers were hesitant to give up total control. In the M.I.T. study, most were less likely to accept automatic parking and cruise assistance systems, worried that they would become overly reliant on the technology at the expense of their driving skills.

There’s also the Route 66 romanticism many older Americans still have with the automobile. “Baby boomers have a love affair with the car,” said Raj Rajkumar, an engineering professor at Carnegie Mellon University and a longtime researcher on autonomous vehicles. “On the other hand, the current generation would rather be Snapchatting, and they are a lot more receptive to technology.”

And in the autonomous-vehicle age, established automakers may be on an equal footing with technology companies. A Nielsen automotive study of over 1,100 participants 8 to 18 years old found there was an equal interest in buying a self-driving car from a technology company, such as Google or Apple, as there was from purchasing one an automaker like Ford or General Motors.

According to a 2016 Autotrader Car Tech Impact Study, about two-thirds of consumers would switch brands to get the technology they want. “But completely brand agnostic, I don’t think people are shopping that way yet,” said Brian Moody, executive editor at Autotrader.

More telling, perhaps, is that roughly two-thirds of the consumers in the Autotrader survey acknowledged that they still would not feel confident enough in a self-driving car to take their eyes off the road.

Even the young participants in the Nielsen study seemed reluctant to take their hands off the wheel, especially high school students with licenses. Roughly three out of four drivers of high school age would prefer to drive themselves, according to the Nielsen study. And one-third said self-driving cars were unnecessary.

That may reflect the fact that those with freshly minted driver’s licenses may be particularly reluctant to give up their newfound independence, says Mike VanNieuwkuyk, vice president, automotive, at the Nielsen Company. Mr. VanNieuwkuyk also noted that younger drivers have not yet logged hundreds of annoying hours stewing in traffic or had to suffer through the daily ritual of monotonous commutes.

“And yet young people are the ones who are going to be the potential beneficiaries of this technology,” Mr. VanNieuwkuyk said. “The youngest have more acceptance; they’re already passengers and they’re more engaged with technology.”

The various studies also reflect a sharper divide between those who love to drive and those who find it a stressful activity.

“There are people who want to hop into the back seat and go to sleep,” said Ken Washington, vice president of Ford’s research and advanced engineering division, “and others who say, ‘No robot is going to drive my car.’”

Most of the researchers and automotive experts say driver attitudes will shift as more advanced safety and semiautonomous systems are introduced into new models. Education about how the systems work and their benefits will also help.

“And just think of being stuck in a traffic jam,” said Professor Rajkumar of Carnegie Mellon. “Then you start to see the light.”

# Set-Top Box

## [Ars Technica] Cable industry offers set-top box compromise to avoid stricter regulation

Jon Brodkin 16 June 2016

<http://arstechnica.com/business/2016/06/cable-industry-offers-set-top-box-compromise-to-avoid-stricter-regulation/>

Cable companies still oppose the Federal Communications Commission's attempt to open up the set-top box market but seem to have resigned themselves to accepting *some* form of regulation.

Industry representatives met with FCC commissioners and staff yesterday to say they are willing to comply with a requirement to deploy applications for third-party set-top boxes using open standards. The apps would have to include all linear and on-demand TV content, but apparently they would not have to allow recording.

This isn't quite what the FCC says it wants. The commission [proposed rules](http://arstechnica.com/business/2016/02/fcc-votes-to-unlock-the-cable-box-over-republican-opposition/) that would force pay-TV providers to make video programming—and the right to record video—available to the makers of third-party devices and software. Under the FCC's model, makers of third-party software and equipment could create their own user interfaces through which cable TV subscribers could access their programming. The solution would be similar to CableCard, but it wouldn't require a physical card.

Customers should be able to watch TV on any device without CableCard, FCC said.

Throughout the debate, cable companies have favored an "apps" model in which pay-TV operators could choose whether to build applications that bring their programming to third-party devices. Cable companies still aren't giving up on the apps approach, but now they say they would agree to rules that make it mandatory for large operators to build apps providing access to all the video customers subscribe to on a wide range of devices. Pay-TV companies with at least 1 million subscribers would have to follow the mandate.

Industry representatives told the FCC that they are open to the commission "enforcing an industry-wide commitment to develop and deploy video 'apps' that all large MVPDs [multichannel video programming distributors] would build to open HTML5 Web standards," they said in an [ex parte filing](http://apps.fcc.gov/ecfs/document/view?id=60002288411) released today. The filing describes meetings with FCC officials involving the cable industry's top lobbyist, National Cable & Telecommunications Association (NCTA) CEO Michael Powell, representatives of Comcast and AT&T/DirecTV, and reps from cable networks Vme TV, Revolt TV, and TV One.

FCC Commissioners Jessica Rosenworcel, Mignon Clyburn, and Michael O'Rielly participated in the meetings along with FCC staff members.

Cable company representatives argued that "consumers would benefit from more choice" under this proposal. "Under the new approach, consumers who want to watch their Pay TV service on different devices in the home could download a new Pay TV app to the smart TV, tablet, or other 'connected' device and start viewing without a cable set-top box. Because of satellite’s one-way architecture, satellite subscribers would need one gateway device from their satellite company to bring the signal to the home and provide features competitive with two-way services, but satellite providers would also offer downloadable HTML5 apps for third-party connected devices," the filing states.

As we noted, the FCC's proposal would go further than this, requiring programming itself be available to third parties so that they could offer different user interfaces. The FCC also says third-party devices should be able to record video, a point the industry proposal doesn't address. But the FCC is taking comments and could change its proposal before voting on a final version later this year.

**Advocacy group: Cable proposal falls short**

Advocacy group Public Knowledge, which supports the FCC's plan, said it is "encouraged that cable understands that consumers want to use the device of their choice, not just devices from manufacturers that have cut separate deals with their pay-TV provider."

But the group said the industry proposal falls short in a few ways. "The proposal does not allow for many features that consumers want, such as home recording, and it does not allow for true user interface competition," Public Knowledge Senior Staff Attorney John Bergmayer said in a statement sent to Ars. "Additionally, core aspects of the proposal are unclear, in particular, the precise mechanism by which MVPDs propose to provide apps for various hardware and software platforms, and whether consumers would need a broadband connection to access video programming instead of leveraging their existing pay TV connections.”

When asked for a response, the NCTA did not dispute Public Knowledge's analysis, but the organization noted there's still time for more "dialogue with the FCC on the details and we hope Public Knowledge will be part of that discussion.” The NCTA spokesperson said the new proposal "presented by a group of programmers and distributors responds to the comments from [FCC] Chairman [Tom] Wheeler inviting solutions for how to meet the important goals of expanding competition for video devices and freeing consumers from having to rent set-top boxes."

The proposal discussed in the meeting comes from the Future of TV Coalition, a group [consisting mostly](http://futureoftv.com/who-we-are/) of pay-TV operators, their lobby groups, some programmers, and minority groups that have aligned with the cable industry. The NCTA provided us with a proposal [outline](https://cdn.arstechnica.net/wp-content/uploads/2016/06/FOTV-DitchTheBox-proposal-outline.pdf) and[FAQ](https://cdn.arstechnica.net/wp-content/uploads/2016/06/FOTV-DitchTheBox-proposal-FAQ.pdf).

The proposal suggests a two-year deadline for providers to comply, the same timeframe the FCC proposed for its own plan. The industry-proposed requirement would then "extend for 5 years, and may be renewed by the Commission if warranted," while the FCC's plan does not have an expiration date.

"TV providers will license their apps without charge to third-party devices for their app stores—provided the device makers or app stores do not impose their own fees or surcharges," the industry proposal says. An NCTA spokesperson told Ars that customers won't have to pay extra to access the apps.

The apps would allow third-party devices to offer "integrated search" in which customers could "seamlessly search for and discover content from both pay-TV providers and online video services offering licensed content on the same device." But if a user selects pay-TV content, they would be taken to the pay-TV provider's application to watch it.

An FCC spokesperson released the following statement: “Chairman Wheeler is heartened that the industry has adopted the primary goal of our proposal, to promote greater competition and choice for consumers, and agree it is achievable. We all agree that third-party access to pay-TV content, integrated search and the protection of copyright, content security, consumer privacy and minority programmers are critical. There is a lot more work to do. We look forward to seeing additional details so we can determine whether their proposal fully meets all of the goals of our proceeding and the statute. We will continue to work with all stakeholders to develop rules that allow innovation to flourish and ensure consumers have real options for accessing the pay-tv programming they purchase."

## [The Hill] Industry groups propose alternative to FCC box plan

David McCabe 16 June 2016

<http://www.thehill.com/policy/technology/283824-industry-groups-propose-alternative-to-fcc-box-plan>

An industry coalition on Thursday proposed what it calls an alternative to Federal Communications Commission (FCC) Chairman [**Tom Wheeler**](http://thehill.com/person/tom-wheeler)’s plan to open up the market for television set-top boxes.

Major pay television providers DirecTV and Comcast and cable trade group NCTA, along with minority programmers, said major providers could be legally obligated to build applications to allow customers to access their content. The proposed framework would not necessarily apply to smaller companies offering pay-TV services.

The applications would be accessible on smart televisions as well as other devices. Users could search for content belonging to both their television provider and streaming services like Netflix.

In a meeting with agency officials, representatives of the organizations behind the plan said they could use the HTML5 standard to build out the applications.

The FCC proposal would use a universal standard, as of yet undetermined, for anyone hoping to make a set-top box.

Absent from the meeting was the Motion Picture Association of America, which is a member of a broader business coalition opposed to the plan. Other content creators that are part of the coalition, as well as Dish, did not take part in the meeting.

"The new applications-based proposal presented today is a constructive step, and we appreciate the MVPDs' thoughtful effort,” the group’s spokesperson said in a statement.

“We will continue conversations with the FCC and others as we evaluate how well this and other proposals respect programmers’ rights, particularly their rights to determine whether and how to disseminate their programming and how best to secure it."

But the industry proposal lacks the core element of Wheeler’s plan: Non-television providers would not be able to build applications or their own hardware to let customers access their television provider’s content.

Under Wheeler’s proposal, the television providers like Comcast or Dish would have to open up their video feeds for use by anyone who wanted to build their own box or application to access the content.

Providers have said the proposal would hurt copyright protections for content creators and strike a blow to minority programmers.

“Chairman Wheeler is heartened that the industry has adopted the primary goal of our proposal, to promote greater competition and choice for consumers, and agree it is achievable,” an FCC official said in an email. “We all agree that third-party access to pay-tv content, integrated search and the protection of copyright, content security, consumer privacy and minority programmers are critical. There is a lot more work to do.

“We look forward to seeing additional details so we can determine whether their proposal fully meets all of the goals of our proceeding and the statute,” she added.

# Markets

## [NY Times] Microsoft-LinkedIn Deal Ignites Twitter Speculation

James Stewart 16 June 2016

<http://www.nytimes.com/2016/06/17/business/microsoft-linkedin-deal-ignites-twitter-speculation.html?ref=technology>

[YouTube](http://topics.nytimes.com/top/news/business/companies/youtube/index.html?inline=nyt-org) and Google.

Instagram and [Facebook](http://www.nytimes.com/topic/company/facebook-inc?inline=nyt-org).

Tumblr and [Yahoo](http://www.nytimes.com/topic/company/yahoo-inc?inline=nyt-org).

[LinkedIn](http://www.nytimes.com/topic/company/linkedin-corporation?inline=nyt-org) and [Microsoft](http://www.nytimes.com/topic/company/microsoft-corporation?inline=nyt-org).

[Twitter](http://www.nytimes.com/topic/company/twitter?inline=nyt-org) and … ?

In the relentless push toward consolidation in technology and social media, Twitter, the social networking site that allows users to send and receive short messages, or tweets, has been the perennial bridesmaid. But this week’s megadeal between Microsoft and LinkedIn has renewed speculation on Wall Street that Twitter needs to attract a suitor or risk being overtaken by ever-larger competitors.

“If current trends continue, it’s inevitable that Twitter will get acquired,” Robert Peck, managing director and internet equity analyst at SunTrust Robinson Humphrey, told me this week. Mr. Peck has long considered a Twitter deal likely, and he renewed that prediction last week even before the Microsoft-LinkedIn deal was announced. This week numerous analysts piled on to the notion.

Investors seem to agree: At one point this week, Twitter shares were up 17 percent on deal speculation, pushing the company’s market capitalization to nearly $11.5 billion.

But investors expecting a big deal at a LinkedIn premium in the next few months may want to think twice.

Given the similarities between LinkedIn and Twitter, it’s not hard to see why shareholders would be betting on a sudden windfall. Until Monday’s announcement, both companies’ stocks were trading at relative bargain prices, both down about 42 percent in the last six months. (Before this week’s rally, Twitter shares were barely half their $26 initial public offering price.)

Both offer global reach and a large number of users: 433 million registered members worldwide for LinkedIn and 310 million active monthly users for Twitter (the numbers aren’t directly comparable because not all LinkedIn members are active users.)

Apart from Facebook and several Chinese social networking companies, Twitter has the largest user base among independent social network companies, according to Statista. (Statista estimates LinkedIn’s active monthly users at 100 million.)

Twitter solidified its place as a hub of the global news conversation during and after last weekend’s massacre at a gay nightclub in Orlando.

That kind of reach is extremely difficult to replicate in an increasingly crowded digital world. “We continue to believe that Twitter remains a platform with massive opportunity,” said Ken Sena, managing director and consumer internet analyst at Evercore.

Mark Mahaney, technology analyst at RBC Capital Markets, agreed: “They’ve got a great brand, a large platform and a unique value proposition.”

A megadeal with a much bigger partner would give Twitter “scale,” which is becoming all-important in a Silicon Valley now dominated by a handful of tech giants.

As the LinkedIn chief executive, Jeff Weiner, put it in his memo to employees explaining the deal, “Imagine a world where we’re no longer looking up at tech titans such as Apple, Google, Microsoft, Amazon and Facebook and wondering what it would be like to operate at their extraordinary scale — because we’re one of them. Imagine a world where we’re not reacting to the intensifying competitive landscape — we’re leading it with advantages most companies can only dream of leveraging.”

For Jack Dorsey, one of Twitter’s founders and its chief executive, the right deal wouldn’t even mean giving up his leadership role or independence. Following the lead of [Alphabet](http://www.nytimes.com/topic/company/alphabet-inc?inline=nyt-org) and Facebook, which have given considerable autonomy to the large operations they’ve acquired, Microsoft promised Mr. Weiner that he could run LinkedIn as a “fully independent entity.”

The Microsoft chief executive, Satya Nadella, “had me at ‘independence,’” Mr. Weiner wrote in his memo.

But if the reasons for a Twitter deal seem so obvious and compelling, why hasn’t it happened yet? The fact is that Twitter faces some unique challenges, and just because it’s a big social media site and prominent Silicon Valley denizen doesn’t mean it’s going to attract a suitor. Yahoo has been openly shopping itself for months, and would-be buyers haven’t exactly been beating down its door.

In April, Twitter reported disappointingly flat user growth and worse-than-expected revenue, and said it was still operating at a substantial loss under generally accepted accounting rules. Investors fled, driving the stock to new lows, and media critics piled on. The Slate technology columnist David Auerbach [went so far as to say](http://www.slate.com/articles/technology/bitwise/2015/04/twitter_earnings_and_acquisitions_the_company_s_in_trouble_and_its_options.html): “Twitter as we know it is over.”

For at least some of the all-important (to advertisers) millennial users, that may well be the case. Jacob Shiansky, 24, who was visiting Manhattan from South Carolina, told me this week that he couldn’t remember his Twitter password and hasn’t visited the site in six months.

“It’s too much business and political promotions rather than a social media site,” he said. “If you want to see Trump’s ridiculous tweets, you can go on Facebook or CNN. You don’t have to bother with Twitter.”

He said his friends feel the same way. “It’s all Facebook, Instagram and Snapchat,” he said. “They’re quick and they’re fun. You don’t have to waste your time typing.”

I can’t say my own Twitter use has been all that prolific, even though I sometimes use it to comment on my column and to recommend stories by other journalists. But I’ve stopped following some people who spew what seems a constant stream of drivel. Days go by when I don’t look at the site.

User engagement has become an increasingly important metric for advertisers, because it enhances ad exposure and gives the site more information about its users, enabling it to target ads better.

On that front, Twitter is a clear laggard. Users spent an average of nine minutes a day on all of Yahoo’s sites, two minutes on LinkedIn and just one minute on Twitter, according to recent data from comScore. Facebook[reported last quarter](http://www.nytimes.com/2016/05/06/business/facebook-bends-the-rules-of-audience-engagement-to-its-advantage.html) that its users were spending, on average, 50 minutes a day.

“We regularly survey advertisers and ask them to rank internet platforms,” Mr. Mahaney, of RBC Capital Markets, said. “Google ranks first, Facebook second and Twitter is somewhere down the list. That’s been true for every survey,” he said.

LinkedIn had the advantage of a clearly defined user base — business professionals — that fit neatly into Microsoft’s current strategic focus. “This deal is all about bringing together the professional cloud and professional network,” [Mr. Nadella said](http://www.nytimes.com/2016/06/14/business/dealbook/microsoft-to-buy-linkedin-for-26-2-billion.html) in a recent report in The New York Times.

Twitter is increasingly seen as a source of news and information more than user interaction. That makes it a natural fit for a news organization seeking to extend its digital footprint, and rumors that [News Corporation](http://www.nytimes.com/topic/company/news-corporation?inline=nyt-org) was interested briefly buoyed the stock this year. (News Corporation denied the reports and no bid materialized.)

Few traditional media companies, though, are big enough to swallow Twitter at its current market value. News Corporation, one of the richest, has a market capitalization of just under $7 billion.

Mr. Peck and Mr. Mahaney cited Alphabet as the most likely buyer. The two companies already have many ties: Several Twitter executives used to work at Alphabet’s Google, tweets appear in Google search results and advertisers can buy ads on Twitter through Google’s DoubleClick bid manager.

Google’s own social networking effort, Google Plus, hasn’t caught on. Google undoubtedly has the size and scale to absorb Twitter.

But Alphabet’s founders have said repeatedly they don’t want to create content. So if Twitter is increasingly seen as a real-time news and content site rather than a social media network, it doesn’t fit into Google’s strategic objectives. Those, of course, could always change.

Both Google and Facebook have reportedly looked at Twitter and passed. (Neither company would comment on those reports. Jim Prosser, a Twitter spokesman, also declined to comment for this column.)

But Facebook has in many ways emerged as Twitter’s biggest competitor. A deal would raise antitrust issues, and it’s not clear why Facebook would pay a premium for something it could largely build on its own.

From a strategic standpoint, the cable media giants Verizon Communications and Comcast might make sense. Both are big enough, both are already content providers and both have shown interest in expanding their digital presence. But it’s not clear either company has the expertise to solve Twitter’s major problems, which are far afield from the cable network business.

A lot of this week’s deal talk seems more like wishful thinking among Twitter investors desperate for a LinkedIn-style exit strategy. That may be slow in coming. Even Mr. Peck of SunTrust doesn’t expect a deal before 2017 at the earliest, because it’s still early in Mr. Dorsey’s latest turnaround effort.

Others are even more skeptical. “I can see the argument for it, but I’m not betting on a deal,” Mr. Mahaney said. “There just aren’t many logical buyers.”

# Miscellaneous

## [NY Times] The First Big Company to Say It’s Serving the Legal Marijuana Trade? Microsoft.

Nathaniel Popper 16 June 2016

<http://www.nytimes.com/2016/06/17/business/dealbook/microsoft-following-the-clouds-to-offer-marijuana-tracking-software.html?ref=technology>

As state after state has legalized marijuana in one way or another, big names in corporate America have stayed away entirely. Marijuana, after all, is still illegal, according to the federal government.

But [Microsoft](http://www.nytimes.com/topic/company/microsoft-corporation?inline=nyt-org) is breaking the corporate taboo on pot this week by announcing a partnership to begin offering software that tracks marijuana plants from “seed to sale,” as the pot industry puts it.

The software — a new product in Microsoft’s cloud computing business — is meant to help states that have legalized the medical or recreational use of marijuana keep tabs on sales and commerce, ensuring that they remain in the daylight of legality.

But until now, even that boring part of the pot world was too controversial for mainstream companies. It is apparent now, though, that the legalization train is not slowing down: This fall, at least five states, including the biggest of them all — California — will vote on whether to legalize marijuana for recreational use.

So far, only a handful of smaller banks are willing to offer accounts to companies that grow or sell marijuana, and Microsoft will not be touching that part of the business. But the company’s entry into the government compliance side of the business suggests the beginning of a legitimate infrastructure for an industry that has been growing fast and attracting lots of attention, both good and bad.

“We do think there will be significant growth,” said Kimberly Nelson, the executive director of state and local government solutions at Microsoft. “As the industry is regulated, there will be more transactions, and we believe there will be more sophisticated requirements and tools down the road.”

Microsoft’s baby step into the business came through an announcement on Thursday that it was teaming up with a Los Angeles start-up, [Kind](http://kind.financial/), that built the software the tech giant will begin marketing. Kind — one of many small companies trying to take the marijuana business mainstream — offers a range of products, including A.T.M.-style kiosks that facilitate marijuana sales, working through some of the state-chartered banks that are comfortable with such customers.

Microsoft will not be getting anywhere near these kiosks or the actual plants. Rather, it will be working with Kind’s “government solutions” division, offering software only to state and local governments that are trying to build compliance systems.

But for the young and eager legalized weed industry, Microsoft’s willingness to attach its name to any part of the business is a big step forward.

“Nobody has really come out of the closet, if you will,” said Matthew A. Karnes, the founder of Green Wave Advisors, which provides data and analysis of the marijuana business. “It’s very telling that a company of this caliber is taking the risk of coming out and engaging with a company that is focused on the cannabis business.”

[David Dinenberg](http://kind.financial/team/david-dinenberg-kind-financial/), the founder and chief executive of Kind, said it had taken a long time — and a lot of courting of big-name companies — to persuade the first one to get on board.

“Every business that works in the cannabis space, we all clamor for legitimacy,” said Mr. Dinenberg, a former real estate developer in Philadelphia who moved to California to start Kind. “I would like to think that this is the first of many dominoes to fall.”

It’s hard to know if other corporate giants have provided their services in more quiet ways to cannabis purveyors. New York State, for instance, has said it is [working with Oracle](https://www.health.ny.gov/funding/single_source/cm00884-74.htm) to track medicinal marijuana patients. But there appears to be little precedent for a big company advertising its work in the space. It is still possible — though considered unlikely — that the federal government could decide to crack down on the legalization movement in the states.

The partnership with Kind is yet another bold step for Microsoft as its looks to replace the revenue from its fading desktop software business. On Monday, it announced that it was buying LinkedIn.

Microsoft has put a lot of emphasis on its cloud business, Azure. The Kind software will be one of eight pieces of preferred software that Microsoft will offer to users of Azure Government — and the only one related to marijuana.

The conflict between state and federal laws on marijuana has given a[somewhat improvisational nature](https://www.nytimes.com/2016/02/17/business/dealbook/as-marijuana-sales-grow-start-ups-step-in-for-wary-banks.html) to the cannabis industry.

Stores that sell pot have been particularly hobbled by the unwillingness of banks to deal with the money flowing through the industry. Many dispensaries have been [forced to rely on cash](https://www.nytimes.com/2015/07/31/business/dealbook/federal-reserve-denies-credit-union-for-cannabis.html) for all transactions, or looked to start-ups like Kind, with its kiosks that take payments inside dispensaries.

Governments, too, have generally been relying on smaller start-ups to help develop technology that can track marijuana plants and sales. A Florida software company, BioTrackTHC, is helping Washington State, New Mexico and Illinois monitor the marijuana trade inside their states.

Kind has no state contracts. But it has already applied, with Microsoft, to provide its software to Puerto Rico, which legalized marijuana for medical purposes earlier this year.

Twenty-five states have now legalized marijuana in some form or another, with Pennsylvania and Ohio the most recent. The biggest business opportunity, though, will come from states that allow recreational use of the drug, as Colorado, Oregon and Washington already do.

This fall, five states — including, most significantly, California — will vote on whether to join that club.

Mr. Karnes, the analyst, said he expected legal marijuana sales to jump to $6.5 billion this year, from $4.8 billion last year. He says that number could climb to $25 billion by the year 2020 if California voters approve the recreational measure this year, as is widely expected.

The opening up of the market in California is already leading to [a scramble for the big money](https://www.nytimes.com/2016/04/12/us/in-california-marijuana-is-smelling-more-like-big-business.html) that is likely to follow, and Microsoft will now be well placed to get in on the action.

Ms. Nelson of Microsoft said that initially her company would be marketing the Kind software at conferences for government employees, but it could eventually also be attending the cannabis events where Kind is already a regular presence.

“This is an entirely new field for us,” she said. “We would have to figure out which conference might be the premier conference in this space. That’s not outside the realm of possibility.”

## [Silicon Beat] Q&A: FCC Chairman Tom Wheeler talks net neutrality, upcoming agenda

Troy Wolverton 16 June 2016

<http://www.siliconbeat.com/2016/06/16/qa-fcc-chairman-tom-wheeler-talks-net-neutrality-upcoming-agenda/>

Tom Wheeler is in a buoyant mood these days.

On Monday, the D.C. Circuit Court of Appeals [**upheld**](http://www.mercurynews.com/business/ci_30013867/net-neutrality-rules-upheld-by-appeals-court-win) the [**biggest**](http://www.mercurynews.com/business/ci_30016071/wolverton-net-neutrality-decision-big-win-all-us) — and most controversial — move the Federal Communications Commission has made under Wheeler’s tenure as chairman when it gave a stamp of approval to the agency’s [**net neutrality rules**](https://www.fcc.gov/general/open-internet). The decision was not only a powerful rejoinder to Wheeler’s many critics, but also gave a boost to his efforts to push forward with new rules in other areas, most notably on privacy and opening up set-top boxes to competition.

[**Wheeler**](https://www.fcc.gov/about/leadership/tom-wheeler) was in Palo Alto on Wednesday, in part to get a virtual reality demonstration at Stanford’s [**Virtual Human Interaction Lab**](https://vhil.stanford.edu/). While in the area, he met me at a cafe on University Avenue to discuss the court decision, how the FCC is approaching the privacy and set-top box issues, and his future plans. This interview has been lightly edited for clarity.

**Q:** Why don’t we talk about the [**court decision**](https://www.cadc.uscourts.gov/internet/opinions.nsf/3F95E49183E6F8AF85257FD200505A3A/$file/15-1063-1619173.pdf), since that’s the topic of the day.

**A:** Oh, why not, huh?

**Q:** Yeah, why not. So you must be pretty excited about that.

**A:** It’s absolutely — it was a slam dunk. It was —

**Q:** I don’t know if you want to use that terminology, [**given the history**](https://en.wikipedia.org/wiki/George_Tenet#Iraq_WMD_controversy).

**A:** Thank you. It was — thank you — but it was a forceful decision. And a very complete and thorough decision. I mean, they addressed every issue. And, obviously, we’re very happy.

**Q:** Is there anything that stands out for you about the decision? Any particular part of it that you think ought to be highlighted?

**A:** Well, I mean, I think the significant thing is that even the dissent said we have the authority to do this. He didn’t like the way we did it, but he said, “Yeah, you can do this.” That’s significant.

**Q:** Was there anything in the dissent or in the opinion itself that gives you pause, that worries you in terms of the next step? Because obviously these guys are going to appeal it, whether to the general **[en banc](https://en.wikipedia.org/wiki/En_banc" \t "_blank)** court or to the Supreme Court. Anything that you see that is worrisome at all for you?

**A:** Just the opposite. It strikes me that this was a decision that was written with such precision that they knew they were talking to the next level as well and wanted to address every issue.

**Q:** So, with this decision now behind you — we’ve been waiting for this decision for months —

**A:** It just seems like years!

**Q:** So what does this mean for you and for the agenda of the commission for the rest of the year? Does this open up any new avenues for you or change what you might have had planned?

**A:** We were operating on the assumption that this would be a positive decision, and I think in many ways it puts wind in our sails to continue on.

So, for instance, the [**privacy issue**](http://www.mercurynews.com/troy-wolverton/ci_29978528/wolverton-fcc-offers-hope-consumers-seeking-online-privacy). I mean, it was fascinating that the court decision came down at the exact moment when there was a [**hearing being held in the House**](https://energycommerce.house.gov/hearings-and-votes/hearings/fcc-overreach-examining-proposed-privacy-rules) in which one of the themes was that the FCC had illegally overstepped its authority with the Open Internet order, and it was that alleged overstepping of its authority that cast the whole proposal that we have about privacy into a [**cocked hat**](http://www.dictionary.com/browse/knock--into--a--cocked--hat).

And in the middle of that hearing there comes down a decision from the appeals court that says, “No, the FCC clearly has the authority.” And they even speak specifically in the order about privacy.

**Q:** So you seem to be — you mention the privacy issue — you guys seem to be stepping out of the frying pan and into the fire in terms of controversy. You guys seem to be courting controversy with the [**set-top box proposal**](http://www.mercurynews.com/tv/ci_29860859/wolverton-dont-be-fooled-fccs-set-top-box), with the privacy proposal.

What do you make of the objections that are being raised to both of those actions?

**A:** Look, nobody likes change. But the reality is that the marketplace has changed significantly. So let’s just walk through each of those, serially.

Congress was explicit in [**Section 629**](http://www.techlawjournal.com/telecom/47usc629.htm) (of the Communications Act) about set-top boxes. It doesn’t say, “The commission may.” It says, “The commission shall” have competitive navigation devices. Yet 99 percent of consumers don’t have any choice.

**Q:** One of the questions that’s come up is why now. There was an effort, what, five or six years ago to try — what was it, the **[AllVid](https://en.wikipedia.org/wiki/AllVid" \t "_blank)**, I think — effort to try to do something like this, and that kind of went by the wayside. What’s pressing now about trying to get this in place?

**A:** The difficulty heretofore in having a full realization of what Congress said had to be done was basically technological. You know, the **[CableCard](https://en.wikipedia.org/wiki/CableCARD" \t "_blank)** that was put in place 20 years ago to try and comply was the state of the technology at that point in time. We are now at a point in time where is everything is moving to software, whether it be the software on boxes or the software in apps, that suddenly the ability to have this kind of competitive choice in navigation devices becomes technically possible. And so we need to seize the initiative.

And remember what Congress did. Congress said two years ago, We want you to bring together a group called [**DSTAC**](https://www.fcc.gov/about-fcc/advisory-committees/general/downloadable-security-technology-advisory-committee) — the Downloadable Security Technology Advisory Committee — to advise on how to make this transition. And DSTAC led to this, because it talked about how this is now all software. … So the technology has created the opportunity for policy to catch up and deliver what Congress asked for in the first place.

**Q:** So one of the objections that’s raised about this is that DSTAC didn’t come out with a unanimous recommendation, that they came out with a couple of different options and didn’t put their imprimatur upon going down this path. So, how do you respond to that?

**A:** Well, DSTAC ended up coming out with [**two reports**](https://transition.fcc.gov/dstac/dstac-report-final-08282015.pdf), two positions, one by consumer groups and one by cable groups. And what we’re trying to do is to blend the two together, which is what Congress asked us to do.

**Q:** So one of the big objections, I think, both about the [**set-top box rulemaking**](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-18A1.pdf) and the[**privacy rulemaking**](https://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0401/FCC-16-39A1.pdf) that keeps being raised is that the FCC is tilting the balance, the playing field, away from the internet service providers and towards the Googles and Facebooks of the world. That the set-top box thing is a handout to the Googles in particular and Netflix in particular, that the privacy proposal is a handout to the Facebooks and Googles of the world who are immune from those provisions. How do you respond to that?

**A:** Well, I think that a well-tried lobbying strategy is that when you don’t have the facts on your side, invent a boogeyman. And the fact of the matter is that, you know, that Google provides video service with Google Fiber. And Google’s video service will have to abide by our set-top box rules. And Google’s internet access service will have to abide by our privacy rules. So when they are performing network activities, which is where we have jurisdiction, they will be regulated exactly the same way as the cable companies.

**Q:** So, I think many consumer groups are behind the effort on the privacy front. But at least some of them have [**objected to this very notion**](https://epic.org/apa/comments/EPIC-FCC-Privacy-NPRM-2016.pdf), that Google and Facebook are being exempted. Those are the companies that, if we look out at the entire landscape, those are the companies that are collecting all the data right now and have been collecting all the data for years. And those are the companies that pose the greatest threat to people’s privacy. Why are they exempt, and by exempting them from the ISP rules, again, doesn’t that favor one group of companies over another group of companies?

**A:** Well, there’s a couple of things here, Troy. One is we don’t have any jurisdiction over edge providers (companies like Google or Netflix that offer online content or services). The FTC has that jurisdiction. So you need to view things as, yes there is federal authority and responsibility, but it’s spread out across two agencies.

Second is that when you look at the network, the network is collecting information regardless of whether you go to Facebook or Google or Uber.

**Q:** By network, you mean your network connection.

**A:** Your ISP (internet service provider). And the ISP knows everything you’re doing on every site. And I can decide I don’t like what Google is collecting on me and switch to Bing or something else or go to Firefox or whatever the case may be. But as a consumer of Internet access service, I don’t have any choice. Sixty-two percent of all households in America have one choice in who provides their high-speed internet access service.

So you’ve got a situation where you’ve got an entity that has ubiquitous access to the most personal information, including your location information and what you do on every site that you go to. And you have the historical expectation that people have been raised to expect with their networks that the network isn’t going to collect information about you and resell it.

So, for instance, think about — have you got an iPhone or an Android?

**Q:** IPhone.

**A:** Think about your iPhone. You make a telephone call on your iPhone, and the FCC for decades has had rules that say that the fact that Troy is calling Air France is information that PacBell or Verizon or whoever your provider is can’t turn around and resell to a Paris tour operator or hotel or something like this.

On the same device, you go to visit the Air France website, and you don’t have those protections, those assurances. Talk about consumer confusion!

And so the expectation has always been that what I do on a network is my information, not the network’s information. And that’s all we’re saying. We’re not saying that the network can’t turn around and monetize that information. We’re just saying before they do it, they have to ask your permission.

**Q:** So let me ask you about that. So you guys set up a scheme where you have some information that you are considering — you think ought to be considered — that people should assume that this information is being collected and there’s no — they have implied consent. You have an opt-in and opt-out, and then an area where you just can’t do it, basically.

**A:** Without permission.

**Q:** Without permission. So, my question is, first of all, do you think it’s possible — so a lot of the opt-in, opt-out stuff is based on the notion of informed consent. And a lot of the informed consent is often built around terms of service, privacy plans that are frankly impossible to read, even for people that are knowledgeable about this stuff. Most people never read these things. Maybe they click on them — maybe.

I’m just wondering the extent to which you think it’s possible for people to give informed consent over data collection given the reality that most people never click on these things.

**A:** We’ve asked a lot of questions about that in the notice of proposed rulemaking, and I’m anxious to see what some of the feedback is on that.

But there has to be a better way — the answer to the question is there has to be something other than, “Excuse me, all your information is my information.” I have to have the ability to raise my hand and say, “Not so fast.”

**Q:** But is an opt-out scheme enough for that? Meaning that, if I’m asking — if I’m a provider and I’m asking for your permission to do something and you have to take the step of opting into it, that seems a higher bar than having to opt out of something.

**A:** So, and it depends on how it’s effectuated. If I’ve got to do it on every single transaction, every single time, something — or should I do it where I’ve got the opportunity to go back and change my privacy settings. We’re asking all those kind of questions.

**Q:** I think the other thing that occurs in this whole debate about privacy and opt in and opt out is that often times, even when you’re opting into something or opting out — like you get a message on your iPhone saying an app wants to use your location information — it’s not often clear what it is, exactly, you’re accepting. And often times the choices are not granular.

So, the app says, “I want to use your location always or never.” You don’t have anything in between. And you don’t get any kind of informed consent about, oh, by the way, when you opt into that app, you’re opting into all their marketing partners who are using that app also.

So I’m just kind of wondering how you guys are looking at this debate.

**A:** So, when you go to the AT&T website and say, I want to be taken off, I don’t want this to happen, you have to go to 21 different companies that they sell the ads to, that they sell your information to. And then you have to — and if you’re going to do that on your mobile device, that’s separate. And if you ever change your browser or clear your browser history, you’ve got to start all over again.

There have to be better ways. And again, this is a process that — we’re in the middle of building a record on this. And we’ll make decisions based upon what we’re finding in this process.

**Q:** So one of the issues that came up in the privacy proceeding — another one of the issues — is this whole notion of “[**pay for privacy**](http://www.siliconbeat.com/2016/06/07/wolverton-fcc-bar-pay-privacy-schemes/),” what AT&T in particular is [**experimenting with**](http://bits.blogs.nytimes.com/2015/02/18/atts-offer-share-your-data-for-personalized-ads-or-pay-more/?_r=0)with their **[GigaPower](https://www.att.com/shop/internet/gigapower.html" \t "_blank)**. And I was wondering how you guys are looking at that particular issue, like how you’re going to evaluate it.

**A:** So we’ve asked about that as well. And, again, I don’t want to prejudge it at this point in time, but privacy — well, I don’t want to prejudge it at this point in time, because how we go about dealing with that issue is a topic specifically addressed in the rulemaking, that we’re trying to gather input and information on, so we can make a decision.

Now I know — and I’m skipping all your questions here by saying, we’re developing it, which happens to be the truth that we have to — so, these are tough issues. And the purpose for having a rulemaking like this is to get everybody on the record. And as you know, the record continues right up until a couple weeks before the actual vote.

**Q:** Do you see the commission making some bright lines, where it says, “You absolutely can’t do this, even with opt in?”

**A:** You’ve got the right to ask that question, but I’m going to say I’m still — and I don’t mean to be cute, but we’re still working on this.

**Q:** So, the New York Times did this great series, I think it was last year, on [**arbitration**](http://www.nytimes.com/2015/11/01/business/dealbook/arbitration-everywhere-stacking-the-deck-of-justice.html) and how all these companies are putting arbitration clauses into their contracts, forbidding consumers from joining together and doing class-action lawsuits. One of your fellow agencies, the Consumer Financial Protection Bureau, is [**taking a step against this**](http://www.consumerfinance.gov/about-us/newsroom/consumer-financial-protection-bureau-proposes-prohibiting-mandatory-arbitration-clauses-deny-groups-consumers-their-day-court/), where they’re saying financial companies are not going to be able to do this anymore, that consumers can’t waive their rights to class-action suits.

The New York Times pointed out some of the biggest offenders, if you want to use that term, of this are telecommunications companies — AT&T, Verizon. And it’s dramatically reduced actions that are being taken against those companies. I was wondering if this is an issue that the FCC is looking at and whether there’s any chance the FCC might step in on this issue.

**A:** So, there have been some folks who have asked us to look at that and consider it, and we are. And I haven’t made a judgement on the specifics of that petition.

**Q:** Do you expect that the FCC might do something on that before the presidential election, or this year?

**A:** Troy, we’ve laid out where we’re going. We’re going to do set-top boxes. We’re going to do business data services, and open up the competition there. We’re going to do privacy. And then we’ve got, you know, a dozen other important but less headline-grabbing kinds of issues. We’re working hard. And what are the issues that we’re dealing with?

**Q:** So the presidential election’s coming up. There’s going to be a new administration come January. Should the Democrats win, would you plan on staying on? Do you plan on stepping down? What are your plans?

**A:** (U.S. Senate Committee on Commerce, Science and Transportation) [**Chairman Thune**](https://www.commerce.senate.gov/public/index.cfm/chairman)and others have been constantly asking me will I step down. I think that every president has the right to select who he or she wants to have running the agency.

**Q:** So it’s up to them?

**A:** Sure.

**Q:** So assuming you do step down, at the request of whoever becomes president, what do you see as your legacy?

**A:** I hate that question, Troy.

**Q:** It’s a natural one. Come on.

**A:** Look, I feel blessed that I get to have this job at this point in history, because technology is changing so rapidly, the nature of networks is changing so rapidly. And how society through its governmental structure reacts to that is something that I get to be involved in — Wow! It doesn’t get much better than that. And I’ll let what we’ve done speak for itself.

And we’ll just push on. I keep saying to everybody, “We’re going to run through the tape.” We’ve got a few months left here, and we will be churning hard on the last day.

**Q:** What do you see yourself doing next?

**A:** I’ll be 71, Troy.

**Q:** That’s young, man.

**A:** So, the answer to your question is there is currently a debate in Wheeler household. Because one of the things that interesting in a job like this — and any job in government — is the impact it has on your family and your spouse.

So what am I going to do after this? I’m going to rent — my plan is — I’m going to rent an apartment in Rome and a Vespa for at least six weeks. Now, she doesn’t like the Vespa idea.

**Q:** I can see that, especially in Rome.

**A:** She says, “I’d like you to reach 72.” So she’s currently pushing for London and no Vespa. But that’s what I’m going to do.

## [The Atlantic] The Forrest Gump of the Internet

Robinson Meyer 16 June 2016

<http://www.theatlantic.com/technology/archive/2016/06/ev-williams-is-the-forrest-gump-of-the-internet/486899/>

To a certain kind of nerd, Ev Williams is the Forrest Gump of internet media. Williams helped write the software that made us call blogs *blogs*. He founded a podcast company years before most people listened to them. He sent [Twitter’s 75th tweet](https://twitter.com/ev/status/75?ref_src=twsrc%5Etfw), then ran the company. And now he’s the founder and CEO of Medium, the platform for online writing embraced by sportswriters, Silicon Valley executives, and the President of the United States.

Of all the American internet industry’s critical events (other than that fateful night in Mark Zuckerberg’s dorm room), odds are good that Williams was there or knew someone present. So at 9 a.m. on a Tuesday in March, as he sweeps down the stairs into the BART station at 16th and Mission—into the fast-transit artery of the country’s most technologized region—you might expect someone to recognize him. But as he gets on a downtown train, no one turns a head.

Despite serving as a board member at one of the five largest social networks, and a mainstay of the Bay Area tech industry for almost two decades, the kind of fame attached to the names of Mark Zuckerberg, Peter Thiel, or the “Google guys” has eluded Williams. He’s maybe even sub-Travis Kalanick now.

Yet his run near the top has been remarkably consistent. While other CEOs in his early-web cohort have left the industry, or have become writers or consultants, Williams has stuck around, leading companies. His startups have nearly all specialized in the same abstract medium: text boxes. He has dotted the web with these text boxes, and people have poured their souls into them, have argued and wept and whispered into them. Millions of people have had their worldview shaped by these text boxes, and the boxes themselves have, in turn, changed the Internet. They have also made Williams rich. Though few of his businesses have turned a profit, he is a billionaire.

I met him in a cafe on Valencia Street, an old punk and immigrant district in San Francisco now lined with spartan boutiques, ethical taxidermy shops, and other beacons of mass-appeal hipsterism.

Williams looks the tech-CEO part. He is tall, soft-spoken, with a constant air of chilled-out concern. His gray hoodie and black t-shirt are woven from some athleisure Star Fleet-issue textile, and he wears broad, squarish white glasses that I internally dub the Warby Mugatu. Within minutes of arriving, he has launched back into his endless theme, which he expands on across multiple meetings, on two different coasts, across three months: “The open web,” he says, “is pretty broken.” But don’t worry—he has a plan to save it, or, at least, sort of save it. And it involves text boxes.

The open web is the nickname for the internet as it should be—free, uncensorable, and independently owned and operated. According to the blog posts [that hashed out most of its theory](http://tantek.com/2010/281/b1/what-is-the-open-web) (and which themselves were published on the open web), the open web describes an internet where people mostly publish their writing (or music, or photos, or films) to servers that they own or rent, accessible via their own personal domain names, in formats that are themselves free or unrestricted. It is *the web* because the pages are written in HTML and CSS; it is *open*because anyone can access almost all of it, without special privileges, expenditures, or a user account. Above all, the open web is free—free like language is free, like consciousness is free. Freedom not so much as a right, but as a technical and inalienable fact.

This liberty has an end goal: to turn the web into the finest, *coolest*piece of media ever created, a library of libraries authored by all of humanity. This web encompasses novels and newspapers and scientific journals, all at once. Anyone can write for it, and anyone can read it. It is a to-do list, a logbook, a work of literature, and a communication tool so powerful that it could abort war.

“Railroad, electricity, cable, telephone—all followed this similar pattern toward closedness and monopoly…”

This is a vision for the web that sounds both very similar to and very distant from the web that you and I use everyday. Our web, after all, contains unhappy news, garish advertising, unsympathetic grandstanding, and a lot of photos of other people’s kids. All this clutter reaches us after being shunted through social networks, which (the idealists lament) are effectively shut off from the rest of the network. The follow-on effect from these networks is even worse: Cookies tied to those same user accounts surveil us as we read across the open web, then a mysterious algorithm uses this collected browsing history to decide how to distract us with ads. The open web is pretty broken indeed, and this isn’t even getting into spam, mass harassment, identity theft, and digital espionage.

“There’s still a bunch of stuff on the web. The stuff we read everyday, the stuff you write, is on the web. And that’s great,” says Williams. (In fact, you are reading this very story on the open web—unless you found it on the Facebook app on your phone, in which case you are reading a copy nearly identical to the open-web version of the story, except that yours loaded much faster and lives on Facebook’s servers.) “There’s still the fact that anyone, at any time, can create their own website and start publishing, and they have a voice—I mean that’s the idea that I got really excited about almost 20 years ago.”

“I think that will continue. I think the openness of voices is not going to consolidate back to the old days of media,” he told me. “I think the distribution points are going to consolidate.”

The distribution points are the search engines and the social networks: Facebook, Google, Twitter, Snapchat, and the messaging apps. Also on that list are YouTube (owned by Google), Instagram (owned by Facebook), Whatsapp (also owned by Facebook), and Facebook Messenger (ditto). By linking the web together, or hosting normally data-heavy content for free, these distribution nodes seize more and more users. And because each of the nodes is more interesting than any one individual’s personal site, people who used to go to personal sites wind up at the nodes instead.

As Williams puts it: “Primarily what we’ve seen is that the social networks have gotten really, really big, and they drive more and more of our attention.” With this size, they also collect more revenue: 85 cents of every new dollar in online advertising went to Google or Facebook in early 2016, [according to a Morgan Stanley analyst quoted by *The New York Times*](http://www.nytimes.com/2016/04/18/business/media-websites-battle-falteringad-revenue-and-traffic.html?_r=0).

“That could be bad,” says Williams, in his low-key way.

The open web’s terminal illness is not a story that he alone is telling. It is the common wisdom of the moment, espoused by *Times*columnists and longtime tech bloggers. The developers who wrote Drupal and Wordpress, two important pieces of blogging software, both recently [expressed](https://ma.tt/2016/03/saving-the-open-web/) [anxiety](http://buytaert.net/can-we-save-the-open-web) over the open web’s future. Since so many of these social networks are operated by algorithms, whose machinations are proprietary knowledge, they worry that people are losing any control over what they see when they log on. The once-polyphonic blogosphere, they say, will turn into the web of mass-manufactured schlock.

Something like this has happened before. Tim Wu, a law professor at Columbia University, argues in his book *The Master Switch* that every major telecommunications technology has followed the same pattern: a brief, thrilling period of openness, followed by a monopolistic and increasingly atrophied closedness. Without government intervention, the same fate will befall the internet, he says. Williams cites Wu frequently. “Railroad, electricity, cable, telephone—all followed this similar pattern toward closedness and monopoly, and government regulated or not, it tends to happen because of the power of network effects and the economies of scale,” he told me.

Williams and his team at Medium say they are working to resist this consolidation, though they are not doing quite what anyone else would recognize as resistance. The truth is that they themselves want to consolidate some of the web, too; and then—with that task done—govern as just, beloved, and benevolent despots. Josh Benton, a media critic at Harvard, [once described](https://twitter.com/jbenton/status/557730060904693760) Medium as “YouTube for prose,” and that’s an apt summary of what it feels like to use. But as I spend more time with Ev, I catch him thinking of Medium as a project philosophically akin to the “Foundation” novels by Isaac Asimov. The heroes of those books sought to centralize all the learning across the galaxy before a dark age set in, knowing that though they cannot stop the shadowed era, they may be able to preserve scholarship and therefore shorten it. Ev’s ambitions, though not as grandiose, follow similar lines. Medium seeks to replicate the web’s old, chaotic hubbub on a single, ordered site—because, ultimately, Ev values the chaos.

In the spring of 2000, a developer and designer in San Francisco named Meg Hourihan was surveying the city’s swelling ranks. New coders had come from all around the world to her city, to work on internet projects, and they were crowding her favorite haunts. She loved the web, and she was excited to see it catch on with a broader public—but she could not get excited about the hordes descending on the city.

“I realized there are dot-com people and there are web people,” she [wrote on her blog](http://megnut.com/2000/04/ive-been-thinking-a-lot/) at the time. “Dot-com people work for start-ups injected with large Silicon Valley coin, they have options, they talk options, they dream options. They have IPOs. They’re richer after four months of ‘web’ work than many web people who’ve been doing it since the beginning. They don’t have personal sites. … They don’t get personal.”

She continued. “Web people can tell you the first site they ever saw, they can tell you the moment they knew: This, This Is It, I Will Do This. And they pour themselves into the web, with stories, with designs, with pictures. They create things worth looking at, worth reading, worth coveting, worth envying, worth loving.”

At the time, Hourihan was co-founder of a small company named Pyra Labs. Her co-founder was Williams. They were both web people.

Born in 1972, Williams grew up on a farm about 90 minutes from Lincoln, Nebraska. For a long time, he didn’t stray far. He stayed in-state for school, going to the University of Nebraska. But sensing the internet’s enormous potential, he dropped out, preferring to try his luck with tech ventures funded by his parents’ money. One of his companies sold a CD-ROM with information about that year’s Cornhuskers team. Another distributed a video about how to connect to the internet.

But by the time he was 24, Williams realized he would have to leave the plains to work on the net. He moved to Sebastopol, California, to work at O’Reilly Media. O’Reilly publishes dead-tree books—programming manuals and standards guides—that held biblical importance to ’90s coders. “When viewed from Nebraska, Sebastopol looks like it’s in exactly the same spot as San Francisco,” he would write later. “In actuality, it’s about an hour away and feels like a very different place.”

“It’s probably bad if all our media and communications are going through services that are controlled by profit-driven corporations.”

He stayed there for several years nonetheless. But he was right about San Francisco. It was there that he met Hourihan. They discovered their mutual admiration for the web, briefly dated, and ultimately founded Pyra Labs together in 1999. Pyra never actually shipped its namesake software, a suite of office collaboration tools, but in the offing it managed to build Blogger, the first simple web-journaling software to find a massive user base. Blogger also helped popularize the word *blog*.

Williams and Hourihan had tremendously unlucky timing. Blogger got big just as the first dot-com bubble popped. The company wasn’t expensive to run, but with VCs going bankrupt right and left, no one could find the money to fund it. It missed payrolls. Its leaders fought about the right path. It laid off employees. In January 2001, Hourihan resigned, and everyone else at the company walked out. (Hourihan later founded Kinja, Gawker Media’s blogging software.)

Yet Pyra didn’t die. Williams kept it alive by knocking out small contracts to keep the corporate name afloat, while finishing long-planned product updates. Two years after the bubble’s collapse, he shipped a premium version of Blogger that cost money to use. He hired a few more staff. In February 2003, Google bought Pyra. “We had a million registered users,” Williams says now. “And that felt big.”

It’s worth dwelling on this moment. Blogger’s story contains all the contradictions that would eventually dissolve the open web. For all the talk of their radical openness, blogs had mostly been the domain of those with hosting space, programming experience, and the time to write them. The blogosphere was dense and complicated, with many writers posting dozens of times per day; those who had the power to blog (like Andrew Sullivan and Stereogum’s Scott Lapatine) could shape conversations in politics, culture, and music.

Blogger’s great innovation was to supply writers with an easy interface and a free domain name, blogspot.com, where they could host their journals. This latter feature fueled the site’s growth. It allowed blogging to graduate from the dominion of a tech-savvy elite to something that anyone with a computer and web connection could do—and more people than ever, motivated by the national-security anxiety and intense politics of the 2000s, were eager to take part.

But even in the blogosphere’s early days, growth was synonymous with consolidation. Expanding the web’s power to more people also centralized it—there was no difference between the two. It foreshadowed what was to come.

Williams stayed at Google for six months before moving on. In the fall of 2004, he co-founded Odeo, an early podcasting company. Odeo wanted to be to podcasts what Blogger was to blogs, but internet audio was still too disorganized for a business to succeed.

“The entire idea of podcasts came from realizing you could do a hack to pull stuff down from the Internet on your computer and put it on your iPod,” he told me when we met in New York. “And that was cool, but it was a pain in the butt.”

By early 2006, some of Odeo’s employees began playing around with a software doodad they had developed. It was a digital megaphone, basically: If you sent it a short SMS text, then it would broadcast that message to all of your friends. That product, separate from the core podcast offering, debuted in March and formally launched in July. By December, it had more than 60,000 users. By February 2007, Odeo had rebranded itself Twitter.

The next month, a subset of technology and media elite glommed onto Twitter at the South by Southwest technology conference in Austin. They loved it, they blogged about it, they started dropping daily witticisms and one-liners there—tweeting when they had written a new blog post, for instance—and the service exploded. By April 2007, Twitter had 8 million users. It had grown more than 13-fold in five months.

This period—the fall of 2006 to the spring of 2007—was the most heated the aughts ever got in Silicon Valley. In this period, Google acquired YouTube, an 18-month-old company, for $1.6 billion. Facebook opened to all users, not just college students. TIME declared “You” the Person of the Year, a silly gimmick that nonetheless initiated the era of social-media hype. And Apple debuted the first iPhone.

In this environment, Twitter was growing explosively, though under the aimless leadership of Jack Dorsey. In 2008, Williams was named Twitter CEO.

Even the internet of 2008 can seem distant. That year’s presidential election was famously waged via web blogs. By 2012, much of the conversation had moved to Twitter. Speaking now, Williams sounds contrite about this centralization, from many news sites and blogs to a single platform. “In general, structurally, it’s probably bad if all our media and communications are going through services that are controlled by profit-driven corporations,” he says. (A similar sentiment sparked the creation of public broadcast media in the 1970s.)

The dangers of corporate consolidation dominate his metaphors. A favorite idea is that the web’s current state resembles the factory-farmed food system. “If your job was to feed people, but you were only measured by the efficiency of calories delivered, you may learn over time that high-calorie, high-processed foods were the most efficient ways to deliver calories,” he says. They would be the most margin-friendly way to deliver calories. But the food still wouldn’t be good—because the original metric didn’t take into account “sustainability, or health, or nourishment, or happiness of the people.”

I proposed that Medium is trying to be the Whole Foods of content. He laughed.

“Maybe we are,” he said. “Not that Whole Foods is perfect, and we’re not perfect either, but we are trying to figure out how to optimize for satisfaction and nourishment, not just activity or calories.”

Williams and his team have devised alternate metrics to account for those more holistic virtues—namely, “[time spent reading](https://medium.com/data-lab/mediums-metric-that-matters-total-time-reading-86c4970837d5#.q6d9bdsyl),” which measures how long Medium users collectively spent reading a story. And instead of garish display ads, much of its revenue (right now) takes the form of native advertising, or brand sponsorship of certain series.

And Medium’s marketing position isn’t far from Whole Foods either—it wants to be the big corporation that upscale customers trust. For even though Williams may express suspicion of the big profit-driven networks, Medium vies to join them. Weeks after we met, the company debuted a tool to suck up WordPress blogs and drop them into Medium. Publications that would have previously lived at their own domain name—like *The Awl,* *Pacific Standard,* and Bill Simmons’ new site, *The Ringer*—now live exclusively on Medium. (*The Toast* [also considered moving to Medium](http://the-toast.net/2016/05/13/we-are-closing-the-toast-july-1st/), but chose to shut down for other reasons.) Each of these sites still lives on its own domain name, but in terms of design and function, each is essentially a Medium page. Their stories also live on Medium’s servers.

While he was CEO of Twitter, Williams spoke to a small product team about what the social network needed to become. The Internet was transitioning from the web of archipelagos to the web of continents, he said. The archipelagos—think of email and the blogosphere—constituted many small, independently owned atolls that could communicate. But their disjointedness also made them nearly impossible to update.

A new form of organization was supplanting the archipelagos, he said: the web of continents. Facebook was a great continent, of course, but so was any other site that absorbed its users into a great centralized morass. If Twitter hoped to survive, it needed to do more than serve and connect the archipelagos—it had to become continental.

Williams did not quite take it there. His tenure at Twitter was marked by fast growth, but the company never found its business footing. In 2010, he stepped down as CEO, though he remained on its board. Two years later, he founded Medium, describing it as a place for content that was too short for Blogger and too long for Twitter. The next year, in the autumn of 2013, Twitter had its initial public offering. Williams’s 12-percent stake in the company made him a multi-billionaire.

Which is funny, because talking to Williams, you get the sense that—to paraphrase the joke about Obama—if things had really worked out for him, he could have been a journalist. What seems to excite him most about Medium or any of his other ventures are that he helped give voice to the afflicted. He remembered “[I, Racist](https://thsppl.com/i-racist-538512462265#.rhjrbt1d5),” a Medium post adapted from a sermon by John Metta. It found tens of thousands of readers on his site.

“He, as a person, just had the right way to say something,” he said of Metta. “And he wasn’t necessarily someone who said I’m gonna be a publisher, I’m gonna start a blog, I’m gonna have a voice. We gave him a canvas, what was in his brain came out, and it found people who needed to see it. That’s a better world, when that’s happening all the time.”

Williams still comes off like a cheerleader for this better world. He told me that a Medium user [wrote an open letter to him](https://medium.com/@ryanstr/an-open-letter-to-ev-williams-3ccf9850e630#.hhabaxj4e), saying that though they had posted to the site every day for a month, they had not gotten more than 100 “recommends” on their post yet. (Every social network has its atomic unit of dopamine-like recognition: Facebook has likes, Twitter has hearts, Medium has the recommend.) He said he wanted to reply and tell the guy to step back.

“Think about what you’re doing,” he says. “You’re playing this game for attention that half of humanity is playing. And you’re competing for not only the thousands of people who publish on Medium the same day, the millions of people who publish on websites that have ever published, the billion videos on YouTube, every book in the world, not to mention what’s on Instagram, Facebook, Twitter, Vine, everything else, right now—it’s amazing any people are reading your stuff!”

That this can still happen—that any subset of readers can still find and read an amateur writer’s work—is what excites him most about Medium. Talking about the centralization of the web, he continually returns to the “bad world.”

The internet: “It’s in general no longer about the creativity, it’s about the business.”

“The worst world, the scary version, is if the tricks to get attention are a skill developed and owned primarily by profit-driven companies,” he told me. “I’d go back to the food analogy. What are people going to be consuming most of the time? They’re optimizing for clicks and dollars. Can a person who has a unique perspective play that game? Are they just going to get trounced?”

This is Medium’s reason for existing: to protect individual writers in the fierce and nasty content jungles. Resistance to the centralization generally is futile, he believes, citing Wu. “That’s the way the Internet works, and that’s the way humans work,” he says. “Efficiency and ROI and economies of scale and user experience—they’re all going to drive more things to consolidate. I kind of look at that as a force of nature. But if things consolidate, does that mean that everything is shit?”

That is the Medium appeal, in a nutshell. *Keeping everything from being shit.* It wants to do so by adopting many of the tics and habits of the original blogosphere—the intertextuality, the back-and-forth, the sense of amateurism—without being the open web. It will use its own custom metrics, like time-spent-reading, to decide who sees what stories; and it will tend to show your friends something if you “recommend” it. Medium, yes, will just be another platform, but it will run the open web in an emulator.

“I understand the skepticism, that we’re a venture-backed corporation that is saying those things,” Williams says. “I think you can still be optimistic that something good can be created, and you can at least get behind the fact that there shouldn’t be one platform that everything centralizes to.”

And by one platform, he means Facebook.

Facebook. Of course it would end with Facebook. The web people have always been suspicious of it. As early as 2007, early bloggers like Jason Kottke [called Facebook](http://www.kottke.org/07/07/facebook-vs-aol-redux) “a step sideways or even backwards” for the web. They compared it to AOL, another platform that intended to centralize the net before it flamed out. (A year earlier, Kottke had married Hourihan.)

Except Facebook has succeeded where AOL failed. [An April report from the web-analytics company Parse.ly](http://www.niemanlab.org/2016/04/twitter-has-outsized-influence-but-it-doesnt-drive-much-traffic-for-most-news-orgs-a-new-report-says/) found that Google and Facebook, just two companies, send more than 80 percent of all traffic to news sites. (No wonder they make 85 cents of every digital-ad dollar.) And since few people today use RSS readers like Feedly or visit homepages directly, publications like *The Atlantic* essentially depend on Facebook and Google to send them their regular readers. Forget that thriving blogosphere: If their authors didn’t move to social media years ago, then their readers did. The web of 2008—the web that helped elect President Obama—has already withered.

All of this can make Williams’s memories of the web sound elegiac. I once met Williams in a hotel lobby in midtown Manhattan, early in the morning. We looked out across Columbus Circle and the late autumn ruddiness of Central Park. In a freak of city planning, Trump Tower was the only thing obstructing our view.

Williams’ flight the day before had been exhilarating, in a comfortably ordinary way, he told me. “I was having one of those rare moments where you appreciate that you live in the future,” he said. “From having called my Uber to get there, to having my boarding pass in my iPhone wallet and scanning it.”

“And something about that, like—everything worked! And that was amazing. And that’s an everyday occurrence, and there’s wifi in the airport, and I can use my phone and laptop the entire time, and there’s wifi on the plane. *That* was our dreamed-of future.”

And it was. But the thing about dreaming up a future, and making it real, is then you have to live in it. Back in San Francisco, coming out of the BART station on Market Street, he admits that the web game has changed since he came up. His glasses have been switched out for ruby sunglasses, polarized, reflective, and movie-star dashing.

“There were always ecommerce startups,” he says. “I was never part of that world, and we kind of looked down on them when the whole boom was happening. We were creating businesses, but ours had more creativity, ours weren’t just for the money. Or maybe ours were even for utility but not just money, whereas clearly there are ways for both.”

He laughs. “Even the Google guys—they were trying to create something really useful and good for the world, and they made all the money.”

Now the internet works differently, he says: “It’s in general no longer about the creativity, it’s about the business.”