And plenty more: a whole $\stackrel{\bigstar}{\bullet}$ of hangers-on, suppliers, dealers, niche marketeers, and brand-new startups. (1993)

A few of them ventured into the internet to seek information and companionshin: this added companionship. numbers of e-mail messages and list postings. (1994)

He told me he thinks of the dj as a connection between two worlds; recorded mysic is floating in the air in what he calls a "data"," and as dj he pulls down the information and channels it into our reality. (1994) Second, each agent has a "permit," so a person can't send a billion of them out into the , intentionally or otherwise. (1994)

With the mac, almost no one was thinking about convergence, data s, and digital revolutions. (1994)

"the beauty of telescript," says andy, "Is that now, instead of just having a device to program, we now have the entire out there, where a single program can go and travel to many different sources of information and create sort of a virtual service. (1994)

At a time when freestanding minicomputers like digital's vax machines dominated college campuses, georgia tech faculty, with allchin's help, were developing an experimental computing environment called s. (1999)

En route to stockholm, on his third flight of the day, he writes another email from the s: "where am i?" (1999)

See also: spuing on the spies once plucked from the recording of the conversation or email in question (1999)

Once a communication is plucked from the electronic certain keywords allegedly trigger a recording of the conversation or email in question. (1999)

Assembled behind him in the mountain view, california, offices of webty, a dozen employees and consultants issue a low, collective groan as he furlously starts drawing little green houses, satellite dishes, box-shaped broadcast tv stations, and programming companies all interconnected to a cartoon depicting the internet as a (1999)

For humans, the detection of a meaningful signal in of data smog happens subliminally all the time. (2000)

Customers start by choosing from a menu of s. a database , an application server , a mail , a full et cetera. (2000)

If a client wants to add services – say, a shopping basket or a secure gayment system – opsware can drop in any number of new s that can be switched on and off. (2000)

He says the all-important security part and parcel of every other loud service, uses off-the-shelf security technologies – such as cisco's firewall system and netscreen for the ypn connections – along with some proprietary additions, and includes complex password and intrusion detection systems. (2000)

The pieces have been around for a while, but as time and technology advance, the of bits and bytes begins to converge. (2003)

Strong angel ii also demonstrated a data network that used a combination of local 802.11 wireless s, a radio link to a local isp and a dedicated satellite channel. (2004)

Gruntwise, the usb receiver dongle provides a 30ft and 480 mbsp for devices to share. (2006)

Meanwhile, google runs based hardware and software

better and cheaper than anyone in the world right now

Apple makes beautiful hardware, but it hasn't improved on .mac, its based storage offering, in years. (2007 based storage offering, in years. (2007)

One announcement I'm almost sure of, however: a far reaching, computing partnership with google. (2007)

Desktop software is vanishing into the , and as balance-sheet replacements, xbox and zune don't pass the laugh test. (2007)

If you're looking for a good way to access the comusic available in various nooks and crannies of the internets, check out seepod's new iphone version of their "playable search" free music service. (2007)

The other is the idea of offering an internet-based platform to developers who want to create services but don't have their own to run them on. (2008)

It's not available as a product you can use to create your own — environment. (2008)

Http://www.techcrunchit.com/2008/11/20/the-wind-cries--computing/ link: the wind cries computing .

Buzz is in the air why — computing is everyone's

One is operating internet-based services in the

—everything from web-based programs like gmail and hotmail to the model used by enterprise software company salesforce.com, which hosts and runs high-level business apps for corporations. (2008)

On one side, you have —based document sharing, photo sharing, wikis and other tools for collaboration. (2009) sharing, wikis and other tous ion community of the based listening is going to become our main way of accessing our music , it will need that level of freedom. (2009)

This is a huge time-saver for anyone using these 🌥

based storage services — especially file traders an those who frequent the web's underground caverns of music blogs. (2009)

business models by keeping users partially tethered to the desktop, even as they try to compete with newer, smarter solutions that live entirely in the . (2009)

The touch-tablet is the attempt of internet hype-master michael arrington and his techcrunch team to make a cheap linux -computer. (2009)

Redmond says that office 2010 will be largely *-based.

Google says it's working with netbook manufacturers to get google chrome os-powered netbooks to the market in 2010, and it's not hard to see how netbooks could benefit from the new, lightweight os and its -based apps. (2009)

Gird your loins, for google's cr-48 (or chrome os notebook, laptop prototype or whatever else you want to call it) is itching to drag you kicking and screaming up to the and into it. (2010)

Printing via connection to another pc is erratic at best. (2010)

The beauty of

telescript," says andy",

is that now, instead of

just having a device to

program, we now have

the entire cloud out

there, where a single

program can go and

and create sort of a

Title: Bill and Andy's Excellent

https://www.wired.com/1994/04/ge

THE CLOUD AS A NETWORK

Telescript is an object oriented

network architecture, which

makes the Telescript network

service. The maker of telescript.

General Magic, started as an in-house company of Apple, but

1990. The company was working on a device that would be so small

and portable that it would enable people to use a computer and

shop remotely from everywhere

time, thinking about a cluster of servers that could act as a cloud

of computational power, made it possible to realise the General

they wanted. Due to the technological restrictions at the

Magic dream.

turned into a company in May

remote programming language. It is used in the development of

virtual service.

Categories: network virtualization

Adventure II

neral-magic/

Year: 1994

travel to many different

sources of information

Looking ahead, ford is trying to bring computing to cars and it even has a tweeting fiesta . (2010)

tweeting flesta. (2010)

See also: google turns on gmail encryption to protect wi-fi users alleged hdcp encryption crack is no pirate bonanza encrypt the , security luminaries tell google scientist says dvd copying software circumvents encryption researchers: disk encryption not secure pin crackers nab holy grall of bank card security escruptate. hushmail spills to feds

But the advantages of computing for maintenance, power consumption, and other things suggests it will dominate computing in a decade or so. (2010)

It's probably no accident that a lot of good design fiction comes across as adbuster-like "subvertising." where andy oran explains what he's up to: for april fools day i'm offering a short story about a future world that has moved entirely to computing: http://praxagora.com/andyo/fiction/har dware_guy the still scares as many it managers as it attracts. (2010)

More interesting yet, if you were a commercial competitor of, say, the amazon , you could quietly hire a 'design fiction' pr firm to assemble a fud attack-ad like that, and that scheme would really work.))) (2010)

(((now imagine his whacky tale as a satirical subvertisement for an imaginary –provision company. (2010) *this should have been a fakery unutube video about a computing

youtube video about a center in trouble. (2010)

dware_guy' *i think this is pretty good example of how not to do 'design fiction.' it's fiction about a_design issue – technical issues with design – but it's coming across like science fiction. (2010)

Dmca_emi intellectual property media the (2010)

(same with itunes music competitors like rhapsody or spotify—something that apple to cries for, since itunes has no similar -streaming service.) (2010) Google goggles project lead david

petrous also provided the inside scoop into how goggles deciphers your images in the . (2010) You stare in wonder as a laser beam scans the imag distracting you while you wait the 6.5 seconds for google to chew on your image. (2010)

Gmail google the web tech (2010)

Revinate bundles it all into a simple —-based dashboard that lets one employee do the work of five or

so, when it comes to monitoring a given company's

reputation. (2010)

Sure, your phone or tablet has serious storage deficiencies, but there's no need to schlen a hard drive when you can float your data in the . (2011)

The app also syncs files stashed in storage services like google docs and dropbox. (2011)

Until google's -based movie studio app is compatible with earlier versions of android (not just 3.0+), try withing it? less fame, but it? fame (disconnected)

vidtrim: it's less fancy, but it's free (ad-supported) or \$3 (no ads). (2011)
The (2011)

"we'll support you when you go cross-over and want some of your users in the and some of them on-premises." but his overarching point is well taken: microsoft is evolving. (2011)

Libin said that evernote and other freemium services that serve millions without charging them or showing them ads owe their existence to the development of I cost servers, cheap bandwidth, open source software, and infrastructure (2011)

and infrastructure. (2011)
Amazon could use its computing strength to supercharge yap and offer genuine commodity transcription services at a competitive price. (2011) (((the transition from old-fashioned desktop multimedia units to gaseous — y portable whatever is affecting many industries, not just gaming. (2011)

dell is doing its best to turn itself into a hip ilicon valley startup. (2011)

as it tends to do around this time of year, google is making waves this week with its google i/o developers' conference in san francisco, where it announced not only the innovative webgl-enabled music video we profiled wednesday, but — more importantly for the future of computing — its chromebook series of netbooks , which sit somewhere between the tablet and the laptop and are designed from the ground up for computing. (2011)

Cool apps the (2011)

When dell moves into "the **" — as it continues to do in big ways — that's innovation. (2011)

From a separate group based in texas, it's even offering "infrastructure" services along the lines of amazon er? building on younge's you platform and of amazon ec2, building on vmware's platform and the open source openstack project. (2011)

the open source openstack project. (2011)

"that's how we're different from ibm and hp."
altmaler's "applications" group handles dell's
partnership with salesforec.om - the two companies now
offer web-based crms services to small- and medium-sized
businesses - and she oversees boomi, a philadelphiabased acquisition that lets businesses bridge the gaps
between services like salesforce and old school
back-end software. (2011)

In the world of the ", the barriers of writing and
distributing your applications go down." this is
something participants in the imagine cup are no doubt

comething participants in the imagine cup are no doubt seeing. (2011) Mittal says that in the future, fundersclub might offer

funds that go after a specific theme, such as mobile or companies. (2012)

Companies. (2012)

To record heart rhythm, a user would open alivecor's app, prop the iphone on his or her chest (or place thumbs on two sensors, as wired executive editor thomas goetz does above), take a 30-second reading and then upload the data to alivecor's . (2012)

After a patient's data uploads to the , an algorithm would scan it for abnormalities. (2012)

As hölzle points out, colossus underpins google 😁 ns indicate pounts out, colossus underpins google storage, the online storage service google offers to developers across the globe in much the same way amazon offers its s3 storage service. (2012)

Two years ago, the commany moved its search to a new software foundation based on a revamped file system known as colossus, and urs hölzle — the man who oversees google's worldwide network of data centers — tells wired that colossus now underpins virtually all of google's web services, from gmail, google docs, and youtube to the google — storage service the company offers to third-party developers. (2012)

Google's entire operating system is *-based. (2012) Forthe very four digits that amazon considers connected devices, they will be soon. (2012)

10:07 am: now we're summing up some os \times mountain lion features, like documents in the $\overline{}$. (2012) Customers have placed 125 million documents in the

"with all of these new products and these applications services, this has been a truly prolific year o innovation for apple. (2012)

yithout the growing capability of the internet and the to transmit large amounts of data quickly, securely and reliably, telemedicine might still be thing of science fiction. (2012)

The internet of things printer doesn't sync up wirelessly to the '; it attaches by an ethernet cable to a computer where you instruct it to run code. (2012) They've got the data from the ', but the robot itself still needs assembling. (2012) still needs assembling. (2012)

Basically it'll enable folk to create a disaster proofed private . (2012) imagine having your own private storage, similar to dropbox, but without a monthly fee and for up to 8tb of storage. (2012)

Mining the Cloud



Wired's clouds (5 examples)

To confront ourselves with specific usages of the cloud, we decided to start a linguistic analysis of the scraped articles from the Wired archive. We wrote a short script that walked through the 184.305 scraped articles to find sentences in which the word 'cloud' was used. The script returned 12.833 sentences to us, which we saved in a large JSON file, together with the article's title, year of publication, url and when the article contained images we also included their url's

```
"images": [],
   "and plenty more: a whole cloud of
   hangers-on, suppliers, dealers,
   niche marketeers, and brand-new startups."
"title": "War Is Virtual Hell",
"url":
   "https://www.wired.com/1993/01/virthell/",
"year": "1993",
```

Obviously, as this simple search for the word 'cloud' does not automatically filter out all the other clouds that are mentioned in Wired, we didn't only encounter the computational clouds we were looking for. We stumbled upon many natural clouds, clouds full of hot gas and volcanic matter, or clouds that were referring to a group of birds. In a first round of analysis, we decided to include a line to our JSON file that introduced the option of a sentence to be "relevant" to us, or not.

"relevant": "no"

The inclusion of the central themes of the four chapters of *A Prehistory of the Cloud* into our analysis of the Wired archive enabled us to challenge ourselves with Hui Hu's observations, supporting our material understanding of the cloud. It resulted in a small analysis exercise. We added the four themes as categories to our JSON file, combined with a "motivation" line where we could describe the reason for our choice.

```
"network": "no",
        "virtualization": "no",
        "data-storage": "no",
        "data-mining": "no"
},
"motivation":""
```

The process of tagging sentences was an interesting challenging task. Most of the times it was not enough to read a sentence without reading the rest of the article. Sometimes this was caused by not being familiar with a specific technique, such as the telescript, other times there was a need to contextualize the specific usage of the term 'cloud' to know what it referred to exactly. The following five sentences are examples of this linguistic and sometimes historical analysis.

Design where we shared a studio and lunch breaks together. It was a rather special time for us, a time during which we were learning about telecommunication protocols and software, shifting away from visual interfaces towards text based ones and gaining some programming abilities. At the time we were also developing our respective interests in natural language processing and network geography and cartographying. These continuous explorations were the basis of a shared interest in the way metaphors, both in language and interfaces, had influenced and mediated our prior experience and understanding of space within the digital realm. Learning how to use, maintain and personalise our devices to our taste made us more attentive to the huge gap between what icons, metaphors and marketing language conveyed and the technical reality they covered, a gap we were not initially equiped to appreciate. To understand better the mechanisms behind metaphorical thinking, we turned to Lakoff and Johnson's seminal work "Conceptual Metaphor in Everyday Language". Metaphors operate as mapping devices, working across two conceptual domains: the source one, from which the metaphorical expression is drawn, and the target one, which is the object to which the metaphor is applied.

From 2014 to 2016, we were both students at the Piet Zwart Institute, master Media

We also realised that although metaphors pervade within so many social activities, a metaphor based understanding of digital networks (and potentially of all domains) has limitations. In his PhD thesis1, Martin Dodge juxtaposes the reality of the dial up modem with the "highway metaphor" to argue that the images created by metaphors applied to digital networks are usually far fetched considering the reality they're used to designate He observes that this doesn't make them less effective, as they "pervade the popular imagination through reproduction in the media, being endlessly circulated and refined, so that they become a natural and invisible part of language and thought." He also notes that metaphors can act as "self fulfilling prophecies", as they end up influencing the shape of technological developments, which also further validates their use.

"The metaphors that are used to study an emerging technology usually end up influencing the shape it takes."— Sawhney (1996)

Willing to research these constructions applied to digital networks, we first made a small database of internet related metaphors, through which we tried to confront the source domains with the target domains, but also to experiment with ways of classifying them and analysing their effects or potential substitutions. We collected adverts and illustrations created to mediate a user's relationship to digital technologies, from interface icons to early adverts for Internet service providers. We spent some time with metaphor theory and articles on the topic and even joined an academic Metaphor Winterschool week at the UvA in Amsterdam2, where we were introduced to a metaphor identification procedure using dictionaries and analysis methodologies on a single word level — a very slow and intense process.

"The cloud's main usefulness lies in its vagueness" — Gibson, 1999

In 2016, after having both graduated, we decided to give ourselves some time to take this research further. This is how we came up with a plan to focus our attention on one specific metaphor: the cloud. At the time, the cloud, cloud computing and cloud services were all over the place, in the news, advertising and product naming. During a meet-up initiated by Brussels based organisation Constant3 and researcher Seda Gurses4 The Clouds are Not an Option5 we realised how large was the scope for this metaphor. The cloud doesn't refer to a single object. Sometimes it is a type of network infrastructure and other times it refers to specific tools. Aside from referring to technological frameworks, the cloud is the product of an entrepreneurial state of mind and promotes an understanding of what the internet should be that has become culturally dominant.

"An icon of a cloud, the reader will recall, originally stood for any unrepresentable network on network maps, such as the Internet; in today's computer and mobile operating systems, this cloud icon now represents a reserve of seemingly unlimited computer power, or storage space; it has become, simply, a representation of the unknown." — Tung Hui Hu, A Prehistory of the Cloud

Seeing all these things coming together in one single visual symbol was a trigger for us to start analysing the functioning of cloud metaphor, and trying to retrace its evolution through time. A first thing to do was to find a reliable source, allowing us to retrace the use of the word through online available content. After careful consideration, we decided to concentrate our attention on US based tech magazine and 'thought leader'6 Wired.

"The people who get to impose their metaphors on the culture get to define what we consider to be true."—Lakoff and Johnson

Due to our respective commitments, our research was postponed for a year and a half, and we started to actively research with some doubts. How relevant would it be to communicate about the cloud now that the hype is fading away, making the cloud as a metaphor somewhat disappearing from plain sight? With the naturalisation of metaphors, the target domain's definition ceases to be negotiable. After giving it some more thoughts, we realised that all the characteristics mediated by source domain had been internalised, which is why it is now easy to forget about the metaphor while keeping the understanding of the technology it generated with us.

"It is clear that the cloud, as an idea, has exceeded its technological platform and become a potent metaphor for the way contemporary society organizes and understands itself."— Hui Hu, A Prehistory of the Cloud

The cloud has been for a while promoted as the main interface between commercial products an a non expert audience. How did this affect us? Could it be in the habit of streaming perpetually available songs and films when we would have priorly downloaded them? Is it in our monthly Netflix and Spotify subscriptions? Is it in the personalised suggestions platforms make for us once our behaviour has been analysed? Or perhaps in our preference towards iClouds than Hard Drives for the storage of our personal pictures? And who would have anything left if the connection went down? At the very moment the cloud started to confiscate understanding, it also locked down all the files and resources. We have come to a moment where much of our digital tools rely on centralized infrastructures and private companies' economical interest, to the benefit of a handful.

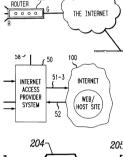
However, there are also users with an interest in cloud self hosting, such as the Rotterdam based Homebrew Server Club7. The cloud in this sense is still a confusing intermediator to designate ubiquitous access to your server. However, the geometries here are decentralized and distributed, as self-hosting creates an active relationship between user and network ecosystem, grounded in individual motivations and identity.

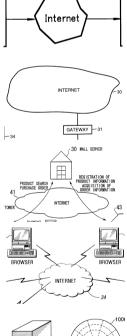
Metaphors can also be empowering, in the way that it makes certain tools available for people that would not be able to use them otherwise. More importantly they can be analysed, played with, contradicted or why not recreated. :-)

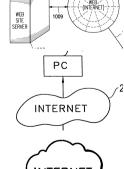
Understanding Cyberspace Cartographies: A Critical Analysis of Internet Infrastructure Mapping http://personalpages.manchester.ac.uk/staff/m.dodge/fhesischap_4.pdf
Digital Methods http://metaphorlab.org/metaphor-lestival/metaphor-festival-17/
Constant is a non-profit, artist-run organisation based in Brussels since 1997 and active in the fields of art, media and technology, http://constantvz.worg
Seda Gurses is a dost doctoral fellow at Computer Security and Industrial Cryptography (COSIC) in the Technologies Team at the Department of Electrical Engineering University of Leuven. She researches conceptions of privacy and surveillance in online social networks, requirements engineering, privacy enhancing technologies and identity management systems. http://wow-etes-ici.net 5 The Clouds are Not an Option, 27 January 2017 - http://constantvzw.org/site/The-Clouds-are-Not-an-Option.html 6 as mentioned on the Wikipedia page for the magazine 7 homebrewserver.club

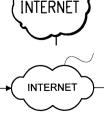
MARKETPLACE **

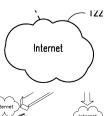
ALWAYS TRAVELLING WITH MY SHOPPING MALL 118 ROUTER - ROUTER -INTERNET Server











Annotating the clouds

"While the system of computer resources is comprised of millions of hard drives servers, routers, fiber-optic cables, and networks, we call it 'the cloud': a single, virtual, object." — Tung Hui Hu, A Prehistory of the Cloud

The cloud has become a metaphor used to refer to a growing number of things over the years. The cloud is at times an infrastructure, a shared server or even a container for data storage. The cloud does not only designate an ever changing set of techniques the metaphor is also used within a wide range of communication contexts, ranging from security experts, willing to promote security, to hardware companies investing in seamless user experiences. The metaphor's coverage is so large that it quickly becomes very difficult to identify to which networking ecosystem each cloud is refering

To be more precise in our analysis and identification of (the material realities of) computational clouds, we decided to work with categories that differentiate four different application cases for the metaphor. These four categories — network, virtualization, data-storage and data mining — are derived from A Prehistory of the Cloud written by former software engineer and poet Tung Hui Hu. These categories happen to follow the chapter structure of his book.

As we will limit the scope of this text to the interfacing side-effects of the cloud metaphor, we won't dive very far into the material domains that these clouds represent. However, we also couldn't really avoid touching upon them. While examining the gaps between the real and the virtual in our understanding of the cloud, Hui Hu didn't stop at the technical materiality of the cloud, but reached much further. The following sections attempt to summarise Hui Hu's observations, which formed the basis for our analytic work, sometimes by using direct extracts from his writings.

Following on Hui Hu's cloud explorations, the cloud as a network creates "a cloudlike vision that is simultaneously vague and also universal".

"The cloud thus offers a vision of globalization that follows the dictates of a multinational corporation a coalition of geographic areas that move capital and resources through the most



Image taken from IBM's image gallery on ibm.com

efficient path. Just as it is cheaper for Apple to use Ireland as its tax domicile to avoid paying US taxes on its French operations, for example, it is more efficient for Facebook to serve some of its Japanese customers from a Singapore data center."

"What could conceivably count as part of the network is "very nebulous", echoing the word's Latin origins in nebule, cloud: a cloudlike vision that is simultaneously vague and

"Because reality can never match up to that system of belief, because, in fact, not everything is connected, the network exists primarily as a state of desire.'

ΟŇ ON ON ۵OFF۱

ALWAYS TRUST ANOTHER COMPANY TO RUN THE SOFTWARE YOU NEED

Customers start by choosing from a menu of clouds: a database cloud, an application server cloud, a mail cloud, a full web cloud, et cetera.

Title: Crank It Up Year: 2000 Categories: virtualization

This list of various cloud services is exemplary of the set of services offered by the company Loudcloud to businesses in 2000. Loudcloud was founded in 1999 in San Francisco and is considered to be — according to Wired one of the first companies that started to offer software as a service. Under the motto "ACCELERATING INTERNET BUSINESS" they provided services such as Web Cloud™, Application Server Cloud™ & Database Cloud™, Security Cloud™. Mail Cloud™. Staging Cloud™ Stress Cloud™. LoudCloud advertised the possibility to 'drop in any number of new Clouds that can be switched on and off', within one subscription, as long as the customer 'pay[s] a monthly fee based on the capacity they need'. The 'cloud' is used as a plural, and is

Strong Angel II also demonstrated a data network that used a combination of local 802.11 wireless clouds, a radio link to a local isp and a dedicated satellite channel. Title: Battlefield Tech for Aid Workers

Url: https://www.wired.com/2004/07/battlefield-tech-for-aid-workers/ Year: 2004

Categories: network, virtualization, data-storage

Strong Angel II was an event that took place in Hawai, at the initiative of the US Office of the Secretary of Defence, aiming to encourage the development and evaluation of tools designed for humanitarian information collection and use within an austere environment. The event was led by Eric Rasmussen, who occupied several positions in the US navy and was a principal investigator at the DARPA at the time. The *local 802.11 wireless clouds* network in question was developed by Clif Cox, according to whom the network design was alike some radio repeater system he developed for the community network SFLan in San Francisco and the Burning Man festival in 1999. The burning man wireless Network relied on a two satellites Internet link system. The wireless "cloud" components were said to enable the easy set up of a humanitarian network in the field from anywhere and would also use an Automatic Position Reporting system to transmit position

Virtualization

"Time-sharing technology, theorized in the late 1950s and deployed by the early 1960s, allowed the tremendous cost of a computer to be shared by dividing the computer's time into infinitesimal increments. By spending a fraction of a second on one user's program, switching rapidly to other users 's programs, then immediately moving back to the first program, it appeared as if the computer were



Image taken from docs.google.com

TIME-SHARING AND VIRTUALIZATION instantly to each user's commands."

"The user's subject position is created not just by software, as media theorists would assert, but by the economic system that undergirds whatever relation any of us have

"By positioning users as intimate partners of the computer, time-sharing yoked users to a political economy that made usersTIME-SHARING AND VIRTUALIZATION synonymous with their usage, and allowed them (or their advertising sponsors) to be tracked, rented, or billed down to each tick of the clock."

"To make the intimacy of the user work, a user must be made to feel individual and private — even as millions of users share the same hard drives, computers, and data pipes underneath."

Data-storage

"Data centers miniature cities of computer servers and hard disks that enable data to be stored and concentrated " in the cloud " — are sized by their energy capacity. Recent constructions range up to 100 megawatts, equivalent to the power consumption of eighty thousand homes.



00

Image taken from the instagram account @thebunkerultrasecure.

"for data to be placeless and borderless, data must first be displaced; for the cloud to appear decentralized, its data must first be centralized."

"By fashioning themselves as data bunkers — fortified locations in the cloud for data storage — data centers carve out private pathways across an unsafe, public Internet"

"While the usual symbol of the cloud is the fiber-optic cable, which transmits data at the speed of light, the bunker complicates this by introducing a second element: wait time. The cloud takes on the temporal attributes of both real-time networks and sleeper-like bunkers that await the system 's inevitable failure."

"The opposite of quickness and virtuality, the bunker posits endurance, the longue durée of the wait. The bunker waits, as if asleep, for an attack or a disaster that may

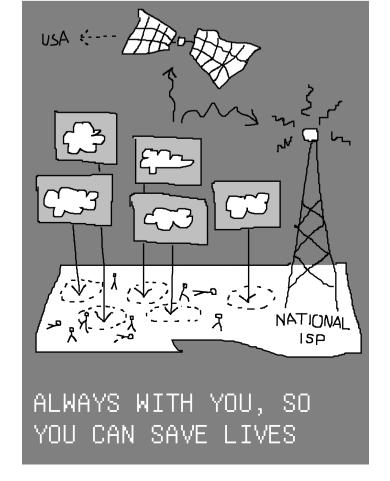
"Indeed, digital culture seems to have evolved hundreds of words to describe waiting, many of them drawn from communications theory: lag, latency, slowdown, buffer, throttle, hold, downtime, interruption, freeze, congestion, chop, blockage, traffic, delay. Yet the overwhelming emphasis on "real time", namely, what is (just) about to come the next refresh of a web page or the next phone notification — subordinates and even voids the phenomenological now in favor of the future perfect."

the same algorithms that make the cloud usable are the ones that define a "user" as that ever-growing stream of data to be analyzed and targeted. To use the cloud is to willingly put on an electronic collar; it is to fuse our hunt for data with our identities as marketing prospects."

"if " war at a distance " produced a subject position of a viewer, " war as big data " $\,$ produces the subject position of a user, that is, a subject that actively participates in securing the system as a whole."

"[T]he cloud uses economic and affective incentives — fulfillment, safety, or even intimacy — to produce the subject position of the "user." Users work hand in hand with digital algorithms, serving as active partners in the cloud 's mechanism of control."

"The neoliberal framework of the cloud purposely confuses economic intimacy with personal intimacy, making free speech resemble free beer. In doing so, the cloud monetizes users through implicit incentives to "use." Through this system, users are continually asked to engage in ever more online activity; to participate in constructing themselves as autonomous subjects; and even to misread economic incentives (such as free disk space) as personal freedoms.'



And congress has so far been unwilling to change course despite the fourth amendment implications as data storage in the has grown. (2012)

As technology advanced, more and more people began storing e-mail on servers indefinitely. (2012)

The senate judiciary committee announced thursday that it will be voting nov. 29 on whether to advance legislation that would require authorities to obtain a probable-cause warrant to get access to all e-mail and other content stored in the , just as a warrant is required to search a car or house. (2012)

Fifteen years after its debut, it has suffered the ignominy of being closely associated with oracle, but it remains the language of choice on everything from android smartphones to services driving massive video applications . (2012)

Both apps are gateways to vast, deep, commercial music catalogs in the . (2012) The company anticipates that it will someday have to

The company anticipates that it will someday have to transition even its \$10,000-per-user professional products from software on physical discs to software available only in the . (2012)
That hit amazon's back in june 2009, when a lightning storm took out servers after damaging one of amazon's power distribution units. (2012)

They call it mega and describe it as a unique tool that will solve the liability problems faced by storage services, enhance the privacy rights of internet users, and provide themselves with a simple new business.

Amazon web services, the computing division of the online retail giant, introduced amazon search today, which lets companies add search functionality to applications hosted in aws's environments. (2012) Several platforms, for instance, mimic the apis of amazon's massively popular elastic compute . (2012)

The shoes of tomorrow also will transmit data to the

You know node is a big deal in the world when microsoft decides to roll it into windows azure. (2012) To be fair, adobe does offer a photo-syncing service that makes it somewhat easier to move photos betu devices, but it still isn't as easy as snapping a photo, applying a quick "good enough" effect and then immediately sending it on to instagram or flickr. (2012)

I took all the devices that access my stuff in the but didn't recall that i keep some things out of the for security; i should have taken the external back-up that sits on my desk. (2013)

It now has a standalone web version (you previously needed to install an app or browser extension) and i own syncing service, allowing you to sync across and devices. (2013)

In recent months, microsoft has made some enormous In recent montrs, microsoft mas made some enormous strides in this area, letting developers run the open source linux operating system atop its azure service and working to build a new version of the open source hadoop number-crunching system that runs on its own windows operating system. (2013)

In october, its hadoop-based tool were rechristened as hdinsight, and the company released a two technical previews: one that ran atop its windows azure servit and one that you could download and installed on your own windows servers. (2013)

This is hugely attractive for users who might otherwise be wary about relying on services — whether they're businesses negotiating multi-million dollar mergers, lawyers and therapists handling confidential documents, activists in authoritarian states, or just couples looking to back up their newborn photos. (2013)

He not only backed it, but donated a subscription to creative to help mackenzie with graphical assets, sound and video. (2013) But if you want to set up your own — service, amazon can't help you. (2013)

Nimbula sells software to companies that want to build amazon-style services inside their own data centers

(2013) Http://www.augmented.org/blog/2013/10/keep-calm-andand facial reconstruction from depth cameras and the

and facial reconstruction from depth cameras and the newly introduced continous visual search: a based look-up table for up to 100.000 feature reference maps, that could be used to use your smartphone to scan a bluray cover and get the correct information returned – without the need of having 100.000 movie case information downloaded and searched locally..." go back to top. (2013) With its countersuit, google claims that rockstar has "placed a on google's android platform," and the we giant aims to shield its partners — including asustek, and samsung - from the company's attacks, as

It created docker as a better way of running this service, and somewhere along the way, hykes and crew, including ceo ben golub, a veteran of the open source game, realized it was something that could help any online business. (2013)

originally reported by gigaom . (2013)

It's a storage device that you attach to your network, and it stays in sunc with all of your devices on and off your network, functioning much like your own private based folder. (2013)

It's also secure for your privacy, a feature that's less and less common in today's world of open source and based capabilities. (2013)

It also has a high sulfate content, toxic particles of which are found in s of dust released by explosions and the endless coming and going of trucks. (2013)

Included with the cost of your camera homemonitor provides seven days of archive support, with the archive stored on the company's server. (2013)
This is a secure system, so unless you're a hacker, you can be comforted in knowing that your living room's or front porch's goings-on aren't public. (2013)

Chrome 24 also offers a nominal speed bump thanks to some improvements in chrome's VB javascript eggine and, according to an earlier blog post , chrome's printing feature is faster thanks to some server-side tweaks.

google demands probable-cause, court-issued warrants to divulge the contents of gmail and other -stored documents to authorities in the united states — a startling revelation wednesday that runs counter to federal law that does not always demand warrants. (2013)

A google spokesman told wired that the media giant demands that government agencies — from the locals demarks that government agencies — from the locals to the feds — get a probable cause warrant for content on its e-mail, google drive — storage and other platforms — despite the electronic communications privacy act allowing the government to access such customer data without a warrant if it's stored on google's servers for more than 180 days. (2013)

As he reads it, ossenmacher says amazon's patent skates closer to the copyright edge by using a technique he describes as "copy and delete," by which a copy of the seller's ____-based content is made and placed into the buyer's

If you wrap your software in docker containers, readily spread them not only across the machine e machines in own data centers, but onto popular — services such as amazon web services — and back again. (2013)

A year and a half on, seamicro is a key part of big-name chip maker and, and its new-fangled machines underpin a sweeping new service from us telecom giant verizon, filling space in seven data centers across the globe.

"one of the largest carriers on earth is building a new type of "," says andrew feldman, the founder of seamicro who now serves as a general manager and corporate vice president at and, "and it's doing this with our infrastructure." according to feldman, the company's machines also underpin services run by ntt docome, the massive japanese telecome, and they're under test at other unnamed companies in europe. (2013)

it lets you control the traffic so that performance is high—and perfectly predictable." according to john considine, the verizon chief technology officer that oversaw the design of the telecom's new service, the seamicro machines allow verizon to guarantee a given level of performance for each individual user of the service. (2013)

service. (2013)
.gallery-overview.native .gallery-slide [display:listitem; marg: Opx; pad: Opx;] .gallery-overview.native
.gallery-ic> lmg [display:none;] il.gallerydescription [display:none;] .gallery-overview.native
.gallery-thumbnail a > img [display:none;] div.galleryavigation div [display:none;] div.gallery-description
[marg: 20px 0]; predix is a new software platform that
will eventually bring all of ge's industrial machines
onto one contextually-aware, -connected system. (2013)

Image: ge but the vision is to connect all these machines and more to the , allowing for predictive service and wide-reaching benchmarking. (2013)

His first project was an ambitious one: creating a system that will bring all of ge's industrial machines from wind furbines to hospital hardware to jet engines onto one -connected, contextually-aware, superefficient platform. (2013)

The real vision is to link all these diverse machines to the , quantifying their performance and benchmarking them against each other–all in the name of eliminating

the number one bugaboo of all these industries: unscheduled down time. (2013)

One big one is the idea that smart software needs to work across devices—not just in the sense that it shares data through the but rather by offering a truly seamless user experience from screen to screen. (2013)

You don't need to build a website or an online shopping cart yourself — a -based compa can handle that for you. (2013)

Amazon azure data centers infrastructure as a service microsoft (2013) This will include local versions of ec2, which provides

instant access to processing power, and S3, which provides data storage, and it will mean that amazon's empire will stretch across ten geographical regions around the globe, with data centers already up and running everywhere from north america to australia to Japan. (2013) Amazon declined to discuss its new arrangement in china amazon can not only satisfy local regulatory and legal

requirements, but also avoid having to turn over the u.s. patriot act — any information uploaded by customers to its chinese services. (2013)

The team pays amazon and microsoft azure a few thousand dollars a month for hosting — a bargain compared to what they would have had to pay upfront for supercomputers ten years ago. (2013)

This would have been prohibitively expensive a decade two ago, but today, with the rise of computing, it relatively cheap. (2013)

And it shows that, thanks to the rise of open source software and — computing, anyone can compete on wall street. (2013)

That means everything that is broadcast on network o cable tv would be available to play whenever you like, making it something like a -based dvr that records everything on your tv. (2013)

Second, the potential economies of scale of a truly-functioning eu-wide single market for computing where the barriers to free data flow around the eu are substantially reduced would be a massive boost to competitiveness. (2013)

That is why europe should aim to be the world's most secure and trusted region for computing. (2013) How to restore trust and build the world's most secure and trusted region for computing? (2013)

and trusted region for computing? (2013)
That is why europe must establish a fully functioning internal market for computing: finally, a wide adopting of computing by the public sector would drive adoption since the public sector is the largest it procurer in europe it can set the right framework for europe's business to get ahead that is why public sector in europe should positions itself as an early adopter of computing. (2013)
A fragmented market for computing will be a set-back for the digital single market, for a connected continent, and for customers and suppliers alike. (2013)

continent, and for customers and suppliers alike. (2013) It would also open up new opportunities for europear providers, which are at the moment far from being market leaders. (2013)

Addressing the Justified concerns of european citizens businesses and public administrations should be seen a an opportunity for the development of computing in europe. (2013)

What could europe gain by become a world leading trusted

A better overview of standards, certification of the use A better overview of standards, certification of the use of those standards and safe and fair contract terms for computing are essential. (2013)

The european computing strategy, includes measures increase transparency of the market. (2013)

What is computing? (2013)

In particular, the puts the best it solutions within the reach of small firms and organisation. (2013)

These characteristics provide a solid basis for further development of computing in europe, as users become more conscious of the need for cheap, flexible it services, without wanting to compromise privacy. (2013)

She's on her lunch break from an outsourcing firm, where she works on a team that moderates photos and videos for the storage service of a major us technology company. (2014)

It lies with the new breed of mobile devices and services that are slowly eating away our need for and faster pos. (2014)
Though the is a great way to get a startup off

Though the sa great way to get a startup off the ground or run a website where the daily traffic ebbs and flows, the voices say , there are other times when it's far cheaper to just buy your own computer hardware.

(2014)

Meanwhile, the rise of computing services such as amazon web services—which let businesses rent computing power over the internet—has undermined the market for computer servers, data storage gear, and other data center hardware. (2014)

<u>On</u>e company, hewlett-packard enterprise, will focus on computing services and other tools for busine while the second, hp inc., will handle personal computers and printers. (2014)

Recently, hp acquired eucalyptus , a startup that lets companies build — computing services in their own data centers. (2014)

In splitting itself in two—and investing more heavily in its own computing services—hewlett-packard is fighting much the same battle, as it seeks to retain its relevance in the face of competition from the likes of amazon, google, and others. (2014)

Today, at an event in san francisco, the tech giant significantly reduced the prices attached to severa its computing services, seeking an edge over amazon the world's dominant company. (2014)

Sync is incredibly hard to get right dropbox's greatest strength is that it makes syncing files with the sharing them with other users seem so easy. (2014)

The first \$500,000 infusion will go to baremetrics , a company that lets software businesses track their owerall financials and measure the value of every customer by analyzing stripe payments data. (2014)

Hölzle believes that the world will evolve to the point where people realize their data is actually safer on google and where government regulations bend for global services. (2014)

In reality, most of our digital lives remain scatte<u>re</u>d across files, folders, devices, and drives both in and bedroom closets. (2014)

"this brings you industry leading pricing without the complexity you're used to," said urs hölzle, who oversees google's services and its entire online infrastructure . (2014)

"we know, from aggregate statistics, that utilization for the typical customer is kinda low," he says.

that its information through even the largest organizations

(2014) Qplay, which is available today for \$49 in a sort o quasi-beta early adopter release, is made up of a small android-powered adapter for your tv, a service for juggling content, and an ipad app for controlling it all. (2014)

Gideoni describes storage for microsoft as just one aspect of its "holistic" approach to the _, an approach anchored not by file-syncing but by office 365, the online version of its iconic productivity software. (2014)

"we actually think we're offering a lot more."
dropbox what that "more" looks like is now the
centerpiece of the competition among storage services
as the price per unit of data becomes a non-issue.

(2014)

deal: \$310 reg: \$870 save: \$560 narrative label camera hands-free camera that uploads your lifestream to the . (2014)

He made microsoft's division an unexpected success; no one expected the buttoned-down company to thrive in the world of online service platforms, where open standards and interoperability are everything. (2014)

Photo deal: \$678 reg: \$1097 save: \$750 rakuten htc re-camera hands free camera that uploads your lifestream to the . (2014)

The big problem: apple was powering its legions of computers with dirty energy, supplied by coal-burning companies such as north carolina's duke energy. (2014)

As talks continued, they lit on the concept of a based intelligence, a global brain. (2014) i confess: when it comes to storing files in the —, i

am firmly in microsoft's region of the sky. (2014) Apps google drive software and operating systems tip of the week (2014)

Through its amazon web services (aws)—a menu of products that pioneered the idea of computing —the company has

transformed the internet startup economy by opening up its digital infrastructure to anyone. (2014)

This general snooping on/data-mining of users is a routine business model for the majority of free based services and apps. (2014) or so it has, but — whipped up by the storm of

or so it has, but — wripped up by the storm or snooping revelations — some counter-currents are (finally) emerging to challenge the accepted wisdom that accessing the convenience of services necessitates giving up your personal data and abandoning any shred of privacy in the process. (2014) Tit was still known as server and tools, and many people were still asking whether microsoft was serious about computing, a technology that lets you rent computing power over the internet instead of buying and installing your own hardware. (2014) "we're as serious about the as we are about evolving our businesses," said kurt delbene, the head of the microsoft office groups at the time with a mod to

nadella, who sat beside him at the table. (2014)

<u>Th</u>ey were preparing a major expansion of the company's computing services —services that let outside businesses or software developers run their own software atop google's infrastructure. (2014)

In a post to the online discussion site hacker news, bryan cantrill, the cto at provider joyent, called the idea that apis could be copyrighted a "perverted and depraved principle." "an api is a description of what the software is going to do," cantrill tells us.

After all, many important pieces of open source After all, many important pieces of open source software are clones of something elga, including the linux operating system and various services. (2014) After all, services ultimately feed the mobile as well as the gaming world, providing a way for software developers and businesses to build and host and operate the mobile applications that run on a world of smartphones and tablets. (2014)

'a good, unique place' when we sat down with satya nadella at a san francisco restaurant in the fall of 2011, he was about nine months into his job running microsoft's and enterprise group – though it wasn't called that at the time. (2014)

Why some startups say the is a waste of money of the control of t

silicon valley, tech startups typically build their business with help from computing services — services that provide instant access to computing power via the internet. (2014)

At a certain point, they say, moving off the bust makes more sense. (2014)

Particularly as engineers, we say: '[the is] the way the world is moving. (2014) Last year, mitra won the \$1 million ted prize to bring the school in the to life. (2014)

Mitra then parlayed that success into the creation of , a set of schools based on the sole model. (2014)

Amazon web services infrastructure as a service

But even if we don't know the number of servers in each rack, knowing the number of racks helps us get a sense of the size of the amazon and its rate of growth. (2014)

Liu was originally trying to measure the size of amazon's flagship elastic compute , but it's possible that some of the racks are used by other services as well. (2014) What we can say is that the is still growing -despite the nsa. (2014)

despite the mad. (2017)
These issue is hardly cut and dry. (2014)
In addition to running services like windows azure
it sells all kinds of software that buyers can use to
build their own services. (2014)

oulld their own services. (2014)
"we're trying to drive hardware innovation in
computing," says bill laing, the microsoft corporate
vice president who will reveal the designs at this
week's open compute summit, a conference dedicated to
the free exchange of hardware know-how. (2014)

The od-11 speaker (\$899) streams songs directly from The od-11 speaker (\$899) streams songs direct spotify or pandora over wi-fi; cooler still, it supports multiple remotes, allowing everyone in house to have a say in what gets played. (2014)

They're all so tightly connected to that ever-growing thing called the . (2014)

"the broadcasters are asking the court to deny consumers the ability to use the — to access modern-day television antenna and dvr. (2014)

If the broadcasters succeed, the consequences to consumers and the — industry are chilling." gordon smith, the chief executive for the national association of broadcasters, said his side would prevail. (2014)

of broadcasters, said his side would prevail. (2014) Full article 'us wants to outlaw eu in trip negotiations' (06.03.14) http://acta.ffil.org/?p=2050 transatlantic data flows and the trade and investment partnership (ttip) (05.03.14) http://www.greens-efa.eu/transatlantic-data-flows-and-the-trade-and-investment-partnership-ttip-11815.html http://greenmediabox.eu/archive/2014/03/05/transatlantic-data-flows' the libe report on the us nsa surveillance programme, surveillance bodies in various member states and their impact on eu citizens' fundamental rights and on transatlantic cooperation in justice and home affairs (21.02.14) http://www.europarl.europare.eu/sides/getdoc.do?type=repo http://www.europarl.europa.eu/sides/getdoc.do?type=repo

rt mode=xml reference=a7-2014-0139 language=en (contribution by ante wessels – ffii)

And that reality, in turn, speaks to dropbox's strategy for distinguishing itself in the (over)crowded field of based file storage, syncing, and sharing. (2014)

In yesterday's earnings call, microsoft said its own
-based office 365 gained a million subscribers during
the quarter, up from 4.4 million three months ago.

Instead, they become the business records of the

The government has argued that unlike letters sent through regular mail, emails stored in the don't belong exclusively to the person who sends or receives them. (2014)

them. (2014)
Unveiled by google computing guru eric brewer at a conference in san francisco, the tool is called kubernetes— after the ancient greek word for shipmaster or pilot—and basically, it's a way of more easily and more efficiently running online software across a vast array of machines. (2014)

"it's a way of stitching together a collection of machines into, basically, a big computer,"—says craig mcluckie, a product manager for google's services.

Once you turn on camera uploads, every picture you take gets sucked up into the . (2014)
"with the world's largest public apparently joining apple, google, facebook and others in committing to power with 100 percent renewable energy, the race to build a green internet may be gaining a crucial new competitor," the statement reads. (2014)

Many popular websites and services, such as netflix, spotify and pinterest, all use the amazon . (2014)

Hith a post on its website, amazon's computing division—amazon web services—said it has a "long-term commitment to achieve 100 percent renewable energy usage for our gibal infrastructure footprint." amazon is the largest computing company in the world, providing services where developers and business can rent computing power. (2014)

Amazon green data centers iaas (2014)

Amazon computing google microsoft satya nadella (2014)

It's hard not to worry about uploading video footage from your house to the , but maslan says that all t but maslan says that all the video is encrypted so that not even camio's engineer:

video is encrypted so that not even camio's engineers can access it (though it's not possible to verify this without auditing camio's servers). (2015)

"it's a camera and —-based ai engine where we trained it on faucets by going on the web, downloading pictures of faucets, and using neural network learning on what makes a faucet," angle explains. (2015)

When a business is built on the — from the start, going mobile is easy: every device is just a portal onto what you do. (2015)

"this is vitally important given many apps moving to

Apple big tech companies have rendered the incomprehensible through their fragmented products and redundant features. (2015)

It has storage and syncing. (2015)

Where the energy comes from but while netflix is efficient when it comes to the watts that it takes to get a series from its servers to you, the company is less specific in its post about the kind of energy its provider. Amazon web services to write (ACT) provider, amazon web services, is using. (2015)

When you binge watch orange is the new black, amazon web services infrastructure, netflix's content servers, isps, and, of course, your wifi router and

laptop or tv all consume energy. (2015)
But with its pioneering collection of computing services, it's also an it company, a company the serves up tech to the world's businesses. (2015)

Wired?

Cyberspace

THE INTERNET

Internet

INTERNET

CASTER

INTERNET

Internet

INTERNET

The decision for Wired was motivated by several things. First of all, we grew up seeing the magazine established in Europe as an authority in digital culture and technology related news, without much alternatives, or at least none with the same influence capacity. From the UK to the Netherlands or France, the magazine has become a point of reference used by established newspapers such as Le Monde, de Volkskrant or the Guardian who has introduced Wired as "the Silicon Valley bible".



famous and influential 'infotainment' program in France (February 2018)

Upon further investigation, we've notice that other characteristics of the publication were making it relevant as a support for the analysis of the evolution of the vocabulary used to propagate Internet related tools to the wider masses. The magazine, currently a property of the Condé Nast group, was founded in 1993, when the Internet was opened to the public. It has its headquarters in San Francisco, establishing obvious proximity with the Silicon Valley, the cradle of revolutionary tech companies that changed the way we consume and envision technologies.

Around the same time, we were browsing a recent notebook by the Institute of Network Cultures, The Internet Revolution: From Dot-com Capitalism to Cybernetic Communism by Richard Barbrook, with Andy Cameron. The publication contained the then 20 years old essay The Californian Ideology, a critic of the Silicon Valley's dotcom

storyline in which "heroic entrepreneurs were the only pioneers of the digital future"2: "The California Ideology is a mix of cybernetics, free market economics, and counter-culture libertarianism and is promulgated by magazines such as WIRED and MONDO 2000 and preached in the books of Stewart Brand, Kevin Kelly and

neo-liberalist discourse, in which Wired is presented as a promoter for such doctrine, by developing a

This essay made it clear for us that alongside our text analysis pursue, the entanglement between the publication's content, and the Silicon Valley corporate movement. Wired fuelled a whole generation of entrepreneurs with some specific ideas of what the future may hold and reciprocally popularised their products and economical models.



others."

"Wired, The people changing your mind", Wilco at the Wired Rave Awards in 2003. H. Michael Karshis from San Antonio, USA - Flickr.com - image description page

In an other even older paper, published in 1994 in the Baffler, Keith White analysed how Wired was instrumental in shaping the corporate neo-liberal revolution. While maintaining the misleading impression of being 'irreverent' through positioning itself as a voice of the underground 'hacker culture', Wired continued to heavily promote the latest cool tech gadgets and covered all the latest technological developments through a heroic entrepreneur centric approach.

Wired refers to its readers as "digital revolutionaries," but don't be fooled: the "r" term is being used in the same way it is elsewhere in recent management literature — to signify a particularly unscrupulous type of executive. In fact, according to Advertising Age, some 84% of Wired readers are made up of managerial professionals with a median household income of well over \$80,000. They may be revolutionaries, but they also happen to be the legions of MBAs graduating each year from business schools around the

Through the development of the project we've had some experience that corroborated White's analysis. As of February 2018, Wired introduced a paywall, meaning that users could only access 5 articles per month4. It didn't interrupt our inventory. As part of this project we had done a scrape of 184.305 Wired articles, covering most of the published content from 1993 to the current day. Ironically, the paywall only made more apparant the bridge between the kind of expert image cultivated by the magazine and the tech savyness it expects from its audience. We initially thought that the restriction was based on our IP address and couldn't bother looking into proxys. But no. After some time we discovered that a simple removal of the Wired cookies restored our access to the articles again. A regular and not too technical-heavy act of removing the cookies in the browser was

Revinate bundles it all into a simple cloudbased dashboard that lets one employee do the work of five or so, when it comes to monitoring a given company's reputation.

country, where Wired is a must read"

Title: Social Marketing Doesn't Have to Suck Url: https://www.wired.com/2010/08/social-marketing-doesnt have-to-suck/

Categories: network, virtualization, data-mining

"Transform guest data into revenue". It is the motto of the company Revinate, founded in 2009 and located in San Fransisco, where they offer software-as-a-service social media and data analysis services to the hotel branch. Revinate gathers customers reviews of hotel visits in order to get a better understanding of the current hotel market, after which they and offer their insights as a service to companies. The company grew much bigger since they officially partnered with TripAdvisor in 2011, giving them access to a large amount of rankings and reviews written by hotel guests. With the dashboard tool mentioned in this sentence, Revinate's employees can use a software hosted remotely on the Revinate servers, to monito many different platforms (such as Twitter, Facebook, Yelp) at the same time in an efficient way.

sufficient to gain access to an unlimited amount of articles. Also, we could scrape all the content in spite of the paywall anyway, which makes the Wired paywall a very light one. Our main realisation there was that this paywall approach had been implemented in spite of these easy possibilities to circumvent it by a potentially techno-literate community of readers.

def parse(self, response):

and its readers"

for post in response.css("div.post"):

Chirlin concluded his article by

describing how migrating these old

articles into the current WordPress

digital heritage and ensured it will be

passed on to the next WIRED website

Although we tried on several occasions

We decided to assume that wouldn't end

up in jail for researching the evolution of

a metanhor's use and took the liberty of

(educational, scholarly and personal use without any intent to redistribution). As artists and researchers we think it is

important to stay aware of the implicit interests and positions of Wired. The

understanding of digital networks and

documented and reflected upon by other

We say 'all' here, as it's still unclear to us which articles are

included in this section. Do these lists include articles from the

influence of Wired on a general

perhaps on technology in a bigger

sense is significant and should be

1 Describing the migration of 34 000 Wired pages into the

cyphon-wired-archive-migration/

scraping Wired's archive. We believe

that our intentions are somewhat

covered by the doctrine of fair use

to reach out Wired's staff to discuss

about our decision to scrape them

beforehand, none of our multiple

requests for discussion was ever

workflow "reclaimed [their] publication's

- 1 http://networkcultures.org/blog/publication/no-10-the-internet-revolution-from-do
- com-capitalism-to-cybernetic-communism-by-richard-barbrook-with-andy-cameron/ -1995 http://networkcultures.org/wp-content/uploads/2016/04/How-To-Be-Modern.pdf
- http://networkcultures.org/blog/publication/no-10-the-internet-revolution-from-dot om-capitalism-to-cybernetic-communism-by-richard-barbrook-with-andy-came
- 4 The Wired paywall allows you to read up to 5 articles per month for free, or all of them when you subscribe for one of the subscriptions that cost ±\$20 per year

Scraping Wired Since the early days of 1993, the

magazine Wired and its online sibling HotWired grew to be a present journalistic voice reporting on the quick developments of the web. We thought that it would be interesting to dive into this set of articles covering this huge period of time. However, we were aware that online access to press articles dating from a quarter of a century ago could be tricky. Servers are often not maintained, links break and websites become hard to read.

as we expected. Wired had put quite a bit of work in maintaining their online archive of articles, which ranges back to structure introduced by Benjamin 2015, the process of scraping the Wired archive was rather flawless. In the article How We Moved 34,000 WIRED Pages to One Site in 9 Hours1 Chirlin scribes how he decided to group articles by year, resulting in url's such as wired com/1993, wired com/1994, etc. When visiting these pages you can find a list of 'all'2 the articles for that year: a perfect resource for a scraping spider to create a list of links.

To our surprise, it was nothing as bad

script that would visit each article and save the content as single .txt files on our computer. Chirlin's work of creating a coherent archive was again very helpful for to do this. As we wer planning to apply a couple of text analysis scripts to the scraped articles we we're looking for a way to save the articles as plaintext documents. What was helpful here, is that Chirlin decided to add a element to every article page in the archive with the class 'post'. This enabled us to search for it and download only the article content.

magazine Wired? Or do they also include articles from the HotWired time? If so, which are included and which not? When checking the current Wired frontpage, it shows that there are many articles that are not listed under a /year, but under /stories. The exact division between the two is unclea

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UNIVERSE TO FIND WHAT

IS MEANINGFUL TO YOU

https://www.wired.com/1993/09/1-4-lifeonthenet/

After collecting the article links in one

def start_requests(self):

urls = open("wired-links.txt","r").readlines()
for url in urls:
 yield scrapy.Request(url=url.replace('\n',''),
 callback=self.parse)

Cloud computing for Businesses

The most significant finding in our Wired analysis was that the metaphor of the cloud progressively became totally embedded within corporate discussion. Back in 1994 we could find cyberpunk fantasies, like some "dj as a connection between two worlds", working with recorded music, floating in the air as a "data cloud", before pulling information down and channelling it into the raver's reality. Later on, the ravers became start up entrepreneurs and the cloud ended up designating products that would revolutionalize the tech industry through the creation of new business models and scalable infrastructures to run software for costumers.

The passing of time within our scraped Wired archive reflected the developments in the tech field, and we noticed a progressive increase in corporate name-dropping and marketing catch phrases. The 'cloud' integrated businesses and products appellations: "CL9" (short for "Cloud Nine"), "Cloudmarks", "Cloudera", "Cloudflare", "Cloud Foundry", "Cloudcroft", "Cloudhead", "Cloudant", "Cloudandco", "Metacloud", "Piston Cloud", "Loudcloud", "iCloud", "Cloudbook", "Berg Cloud", "Cloud Drive", "CloudConvert", "CloudApp", "CloudAudit".

Trapped in a circular movement, Wired popularised the idea of this strongly business oriented cloud culture.

The Wired archive is a resource of specific examples and stories of historical and current cloud culture. Although the aesthetic expierence of the Telesphere and the Apple Homepod are far from being similar, both products are built on top of the same systemic thought: that it is a good idea to make a product that is

When speaking in terms of cloud to refer to networked access, content server hosting, virtualisation or the aggregation of data across networks, we make use of a visual symbol that was created for a specific context. In 2015, Noah Veltman, former data analyst for the BBC, made a blog post entitled what shape is the Internet, displaying a collection of patent drawings depicting the Internet as a web, an explosion, some sort of bean, a highway and a vast declination of clouds. A lot of these drawings predate 2000 and the immense majority of assignees for these patents were companies such as:

AT&T Webloyalty International Business Machines Corp Nortel Networks Ltd **Netscape Communications Corp** Samsung Electronics Co Ltd NTEX DATACOMMUNICATIONS BV Telefonaktiebolaget LM Ericsson HP Inc Stanford Telecommunications Inc Sony Corp Fuiitsu Ltd

The clouds of the patented internet

Lucent Technologies Inc

A collection of clouds appearing in patent diagrams, grouped under the name What shape is the internet? by Noah Veltman.

The emergence of these wobbly shapes started as a way to signify a part of the network that didn't need to be extensively described in its full complexity when the discussion had to be focused on specific aspects. As the technical diagrams were circulating amongst engineering staff, already familiar with the technology, the omission of networking aspects "not relevant to the discussion" didn't impair anyone's comprehension of what happened beyond it. The use of clouds in complex telecommunication systems diagrams predated the Internet and had never been popularized outside the realm of technical diagrams.

However, the coinage of "cloud computing" took network abstraction to a new domain by progressively introducing the metaphor to the market place. The first found mention of cloud computing happens to exist in an internal document at Compaq from 1996. The paper stated that "application software is no longer a feature of the hardware—but of the Internet".1 Not long after, NetCentric, a company making "software for inside the Internet"², filled a trademark application for the term "cloud computing"3. The demand

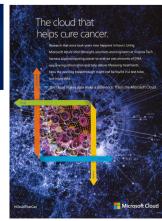
The first known mention of 'cloud computing' was found in a Compaq internal document4.

In 2006, Amazon.com released its Elastic Compute Cloud service (EC2), allowing people to run programs from rented virtual computers. In the very same year Google's then CEO Eric Schmidt promoted the word during a conversation hosted by Danny Sullivan at the Search Engine Strategies Conference:

"I don't think people have really understood how big this opportunity really is. It starts with the premise that the data services and architecture should be on servers. We call it cloud computing - they should be in a 'cloud' somewhere. And that if you have the right kind of browser or the right kind of access, it doesn't matter whether you have a PC or a Mac or a mobile phone or a BlackBerry or what have you or new devices still to be developed - you can get access to



Loud Cloud



Cloud companies logos LoudCloud - 1999 SoundCloud - 2007 iCloud - 2011 Microsft Cloud - 2014 Western Digital's My Cloud - 2015

- $1 \quad http://tsdr.uspto.gov/\# caseNumber=75291765\& caseType=SERIAL_NO\& search$ Type=statusSearch 2 http://tsdr.uspto.gov/#caseNumber=75291765&caseType=SERIAL_NO&search
- Type=statusSearch
- http://tarr.uspto.gov/servlet/tarr?regser=serial&entry=75291765
 Compaq internal document PDF (November 1996)
- 5 https://www.google.com/press/podium/ses2006.html
- 6 https://www.wired.com/1994/08/spooky/

But Siri, Apple's voice assistant, can't make the speaker do much beyond the basics and can only summon music from Apple-

Title: All About HomePod Url: https://www.wired.com/2018/02/gadgetlab-podcast-348/ Year: 2018

Categories: virtualization

owned cloud services.

This user review of the latest Apple product reflects clearly the limits of this cloud based Apple centred system. Apple provides the users of the Homepod with a full system which is more restricting than it is open for different usages. Although the speaker's quality is considered to be very high, the author explained that he couldn't use it to listen to his self downloaded MP3's, as it is only possible to listen to music hosted on Apple owned nothing more than a entrance and lock down into the Apple ecosystem

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In the world of computing, this has long been the question: what happens if you run your company on amazon web services and amazon ends up competing with you? (2015)

(2015)

It's the world largest [♣] computing company —by an astronomically large margin. (2015)

Josh valcarcel/wired thanks to the proliferation of cheap and universally accessible storage, you can your data and documents follow you everywhere

Netflix and dropbox, for example, built two of the world's biggest online empires atop amazon' services. (2015)

As it turned out, the spawned a revolution. (2015) Inside big businesses, just about every so-called private project has failed. (2015)

private project has failed. (2015)

Many of these skeptics worked at places like hp and dell and ibm and oracle, the tech giants most threatened by the revolution, companies that sold the expensive computer servers and other data center hardware and software that the could replace. (2015)

And while amazon's is now facing challenges from similar services offered by the likes of microsoft and google, jeff bezos and company have established an enormous lead in a market that could be worth \$151 billion by 2020. (2015)

Amazon controls the amazon is a 21-year-old company. (2015)

But it wasn't long before the company realized the potential of its vast — computing capabilities—and moved to monetize it. (2015)

Just six years after it launched, the company's computing infrastructure was estimated to run as much as 1 percent of the entire internet . (2015)

Some bets, like its massive computing service, amaze web services, have proven hugely successful. (2015)

All hail the that certainly is true of amazon's services. (2015)

The effort started in august, 2006, when amazon introduced the elastic compute (ec2). (2015)

As my colleague cade metz wrote in 2012 , amazon's reasons for making its public when it did is a bit of a mystery. (2015)

During its annual conference for amazon web services users last week, the company introduced a range of computing business services that layer on top of its computing infrastructure. (2015)

And during an event in las yegas, amazon introduced a sweeping collection of new computing services that let you juggle vast amounts of data without setting up your own hardware. (2015)

It stores video locally, instead of in the **, which some will find reassuring. (2015) The city of long beach didn't need to write code, or

even buy servers, since the whole thing is hosted on microsoft's azure . (2015) mucrosoft's azure . (2015)

During its last earnings call, amazon revealed that its computing services are actively used by over one million customers. (2015)

Alibaba amazon awas computing (2015)

Both its amazon web services business and its north american retail sales were strong performers for the company. (2015)

The business's operating income in the third quarter.

The business's operating income in the third quarter (\$521 million), was almost as much as amazon's whole north america e-commerce business (\$528 million). (2015) All of which just means: its business is still killing it. (2015)

And at the same time, it runs the world's most successful computing business. (2015)

That's why we wanted to come out of the gate right away with mobile first, first, and windows desktop," says weisberg. (2015)

The cognitoys dinosaur connects to a watson — computing service via the internet. (2015) But the private — thing isn't what it might seem.

It can't compete with services from the likes of amazon and microsoft and google. (2015)

Chef computing dell emc hp pivotal private public (2015)

Yes, companies like this can offer their own services. (2015) But now they can use services from amazon and google

and microsoft. (2015)

The company will focus on, well, the private . (2015)
But the picture for its division amazon web services
was even better: a 4391 million profit based on \$1.82
billion in revenue. (2015)

Within the prynt app, after you capture a photo, you take a short, six-second video afterward that "attaches' itself to the photo via the . (2015)

In addition to these exits, nadella is also shuffling existing staff, reorganizing the engineering team into three core groups: one that will focus on and enterprise products, another that will concentrate on applications and services, and a third that will work on the windows platform and devices, including lumla phones, surface tablets, xbox, and microsoft's augmented reality device, hololens. (2015)

Last july, the ceo also issued a lengthy memo explaining that the company would be honing its focus, shifting from a "devices and services company" to one that prioritizes productivity and computing. (2015)

"at our core, microsoft is the productivity and platform company for the mobile-first and -first world," nadella wrote at the time. (2015)

The *-connected smart home takes shape more products from google's nest group and apple

with siri, google now, amazon's alexa, cortana in windows 10) is starting to work . (2015)

It would be in their best interests to contribute back

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Wacom offers 🏲 storage for bamboo spark pages, and the to the main foundry project, but they might be disinclined to do so by the fact that they compete files are easily shared to dropbox, to evernote, or as

directly with pivotal, a company spun out of vmware and emc in part to commercialize foundry. (2015) some of the old nature of the open source model is starting to break down as these projects become bigger and more valuable, I think that's where foundations come in.", for example, ibm and hp offer services based on foundry. (2015)

Dubbed the native computing foundation, the organization is just the latest in a series of high

projects created by large tech companies. (2015) It gave away all rights to kubernetes, a — computing

system originally designed by google engineers, asking a non-profit to manage its development. (2015) while the linux kernel, apache server, and hadoop platform were all started initially as non-commercial projects, some of these new projects, like foundry, have always been corporate products. (2015)

In the past year, we've also seen the launch of the foundry foundation to govern a project originally released by ymmare, the establishment of the node.js foundation, thanks services company joyent, and the founding of the open container initiative, thanks to several different companies, most notably docker and compens (2015) coreos. (2015)

Companies like google want others to use their open source software since it can help drive the use of online services, like google's computing tools.

In his keynote at the o'reilly open source conference in portland, oregon last week, foundry foundation ceo sam ramji argued that the shift is being driven by economics. (2015)

It relays that info to the , and an iphone or andrapp will notify you if anything seems amiss. (2015)

"In fact, doing so would undermine the power efficiency that enables moto voice to work." amazon declined to that enables moto voice to work." amazon declined to comment for this story, but its echo fap page confirms that its bluetooth speaker also "uses on-device keyword spotting to detect the wake word." In other words, voice recognition on both of these devices is cut off from the until you want it to connect. (2015)

It's been eight years since netflix first began streaming movies, and by now the catalog is essentially a tiny civilization: each month, dozens of titles shuffle off the —based coll, and dozens more are born to take their place. (2015)

Like most other aging tech giants, the 103-year-old ibm is has been working to retool itself for era mobile devices, social media, and computing. (2015)

To that end, it has invested \$i\$ billion into a service of its learners and its learners and its learners and its learners.

ro and end, it has invested \$1 billion into a version of its jeopardy winning artificial intelligence platform watson, inked a deal with twitter to bring its mountain of data into watson, and partnered with both apple and japan's postal service to build mobile services for senior citizens. (2015)

Both companies are working on ways to secure data stored in the but are approaching the problem from very different angles. (2015)

Aikicrypt is working on a new way to encrypt 🏲 data. (2015)

Traditionally, if you want encrypt data in the in such a way that the hosting provider can't read it, you won't be able search or operate on that data in any meaningful way without decrypting it first. (2015) Oblivilock, on the other hand, is trying to protect metadata stored in the . (2015)

But as harteau explains, there's a point where the cost-versus-convenience math of moving to the dake sense. (2016) "Nobody is running a ^{**} business as a charity," says

doubtes as a charter, says adding agarwal, the vice president of engineering at dropbox, which has used amazon's services for a nearly decade. (2016)

"They can leverage the economies of scale in ways that would be pretty difficult for us." If you move onto a service, you're still paying a premium. (2016) If you want to keep your messages fully end-to-end encrypted, never sync whatsapp or viber with a backup program. (2016)

"Chances are you're making a compromise by backing up to the ," says zdziarski. (2016)

By making that a part of its offering, google is signaling Just how seriously it takes the . (2016.

Microsoft has offered services based on similar technologies. (2016)

Today's move is part of an enormous effort by google to grab a bigger foothold in the all-important computing market. (2016)

During a lengthy keynote speech meant to highlight the company's entire suite of services—services it sees as an enormously important part of its future—google new application programming interfaces (apis) for identifying images, recognizing speech, and translating from one language to another, among other services

Today at an event in san francisco, the company unveiled a new family of computing services that allow any developer or business to use the machine learning technologies that power some of google's most powerful services. (2016)

It would upload your data to the for processing, then deliver results and health suggestions to you when you were ready to check in. (2016)

You won't because you are concerned about the security of the ? (2016)

If you're (understandably) not an itunes fan, then you may prefer to backup your phone over the (2016)

But the crazy growth of its is slowing down a bit: two quarters ago, amazon posted 82 percent growth in aws revenue; last quarter, sales grew 78 percent year over year. (2016)

Another trend amazon can be proud of: its ever-expanding business. (2016)

And back then, it didn't make sense for a company like spotify to run a live streaming service in the

When spotify first built its streaming service in 2006, computing was only just getting started inside amazon , well before google or anyone else really got into the game. (2016)

A massive market this is just a small part of a sweeping movement towards the services offer amazon, google, microsoft, and so many others, including ibm and rackspace. (2016) According to tech research firm forrester, the market

software without setting up their own machines— will grow to \$191 billion by 2020 . (2016) She'd always been interested in the sort of thing they studied-server administration and computing-but it was only in that program, she told me, that it clicked. (2016)

T want all the other little girls to see, wow, you can make it in the boys' club." as we walked out, i told andrews it seemed to me that perhaps she was being underutilized in her role; after all, she'd told me that she had certificates in networking and administration. (2016)

But now it's intent on transforming itself into a computing company, inviting a world of businesses to build and run their software on its vast online infrastructure. (2016)

In short: the rise of ai and computing have put an end to fight club. (2016)

It too is, well, a company. (2016)

"the right answer is to actually not do this yourself," says urs hölzle, the former university of california, santa barbara, professor who, as google employee number eight, oversaw the creation of the company's global network and now helps run its computing services. (2016)

The irony is that in fleeing the , dropbox is showing why the is so powerful. (2016)

Like the bigger companies, they too deliver tools that businesses and developers can use without setting up their own hardware—the essential appeal of the (2016)-Users should no longer trust these devices: if yo

Users should no longer trust these devices. In you wouldn't post it to the internet publicly, don't put on a fire tablet." further, amazon's insistence that it maintains a secure connection with the doesn't ease concerns over the data on the device itself that's now vulnerable. (2016)

Since everything the echo does happens in the anyway, you can definitely now control your living room temperature from the comfort of your hotel. (2016)

They boast the latest in financial technology, lik internet banking and computing services tailore ernet banking and — computing se online gambling industry. (2016)

Indeed, google revealed its new chip as a way of promoting the services that let businesses and coders tap into its ai engines and build them into

their own applications. (2016)

At the same time, as more and more businesses adopt the Agt the same time, as more and more businesses adopt the computing services offered by google , they'll be buying fewer and fewer servers (and thus chips) of their own, eating even further into the chip market. (2016) And this this dreams. (2016) And google's belongs to greene. (2016)
That's computing. (2016)

By 2020, the company has said, the money it makes from computing could eclipse its ad business altogether. (2016)-We're thoroughly children of the 🏪 these days, and

portable hard drives have come to feel as quaint as cassettes. (2016)

Besides, most of your stuff's in the to you anyway, meaning it may not be as bad a transition as you'd think. (2016) Besides, most of your stuff's in the ^{★★} by now anyway meaning it may not be as bad a transition as you'd think. (2016)

There are practical reasons for memories, namely that saving snaps to your phone either leaves you vulnerable to losing that phone (and your snapenta history along with it) or dependent on another service's for backup. (2016)

"You can't collect data on everyone just because anyone could be a criminal." stored communications the electronic communications privacy act is overdue for an overhaul. (2016)

So, like millions of other music fans with limited irl storage space, i put complete faith in the , despite the fact that it had been named for an aerosol that has a tendency to suddenly disappear. (2016)

Besides, i'd been assured that everything was going to be in the . (2016)

Store your data in the fragmented over many locations outside u.s. — orin kerr (@orinkerr) July 14, 2016 but microsoft and civil liberties advocates have argued that giving american prosecutors access to foreign data would have severe privacy consequences. (2016)

Today in san francisco, build 2016 is happening, so we should expect to see announcements about new features in windows 10, some new stuff coming to xbox, updates on microsoft's software services, and maybe another peek the company's augmented-reality goggles, hololens Upgraded processing capability and new sensors will

collect this data and communicate it to the service managers and ge's —-based computing platform for analysis. (2016) Evesham township pays evidence.com for six terabytes of storage a month, and friel says the department will soon need at least another two terabytes a month to keep up. (2016)-

up. (2016)-To set up your preferences, you'll need to use a machine that can run a browser. (2016)

If you add a \$10 per month nest aware subscription , you get constant recording, with video feed stored in the (2016)

Sticky password's premium option also permits wi-fi syncing across devices, so your encrypted data never has to leave your device and you don't have to trust the (2016)

Similar to lastpass and dashlane, you can download the desktop and mobile app, but need to subscribe to their service for syncing. (2016) All their writing uploads to the and will sync from that point forward, until they disconnect. (2016)

"the steps to get to writing are as simple as opening the box and turning it on." when it comes time to sync with the , leeb says, the user simply connects to wifi and inputs their email address. (2016)

You don't need to upload to the ': you can also save "over one million pages" of documents in plain text format to the freewrite's internal drive. (2016)

You can save your documents directly to freeurite's onboard storage, but it also has wi-fi connectivity that allows you to save to the . (2016)

Dyn said on friday evening that the security firms flashpoint and services provider akamai detected miral bots driving much, but not necessarily all, of the traffic in the attacks. (2016) This morning, the company unveiled its own — computing mus worning, the company unveiled its own computing service—as service that lets anyone build and operate software without setting up their own hardware. (2016) Amazon pioneered the concept of the about a decade ago with amazon web services, which has since turned into a \$9.6 billion side business for the world's largest online retailer. (2016)

There remains much debate over the — idea. (2016) The argument was stoked last week when big name sar francisco startup dropbox announced that it had moved off of the amazon . (2016) But with companies like amazon and google providing the

all-important economies of scale while keeping prices low in order to compete with each other and the rest of the market, the makes more and more sense as the way for businesses to outsource their it. (2016)

That's even more the case now that its most profitable business isn't selling products, but rather services through its aws division. (2016)

A lot of your content is stored by other companies that provide you with email service; it's stored in their, "said neema singh guilani, legislative counsel with the aclu, one of the groups that is working to pass the bill (2016). bill. (2016)

bill. (2016)

Warrants for the under the current law, police need a subpoena to access communications that are stored online, which only requires law enforcement to provide reasonable suspicion, a much lower standard than the probable cause that must be shown in order to obtain a search warrant. (2016)

The new bill (an earlier version for which, full discloser, the author once helped co-write an endorsement as an advocate with the eff) would require a warragt for law enforcement to access content stored in the , "that includes emails, text messages, documents, photos, spreadsheets, or a facebook message you sent to somebody," gullani explained. (2016) Tip 2: disable backups beyond key fingerprints, anyone who backs up their data may face an even more

glaring issue: those backups often aren't encrypted—or at least not using an encryption system for which only you control the key. (2016) Like so many other tech startups in recent years, dropbox ran its online operation atop what is commonly called "the amazon" a hugely popular service run by yes, that amazon—the world's largest online retailer.

In fleeing the , dropbox is showing why the is so powerful. (2016) Rather ironically, it highlights how — computing is

Amazon's computing service lets anyone build and operate software without setting up their own hardware (2016)

rapidly transforming the way businesses operate. (2016)

Microsoft's skype translation service leans on neural networks, and according Joseph sirosh, who oversees microsoft computing services related to data and machine learning, the tech is moving into other microsoft translation services as well. (2016) If you want a -free way to keep your phone's photos

contacts, and music, this is a clever and easy way to do it. (2016) Since windows 10 phones can't run full desktop apps, they'll run ♣ based virtual apps instead for enterprise duty. (2016)

If you're zipping along, they have just a moment pitch you burgers, or tires, or services . (2

There's a database with cooking instructions for those meals, as well as wi-fi connectivity so it can pull down new and newly perfected recipes from the . (2016) There's a new native app called files, which is a

smarter and cleaner way to browse all of your files—not only on the ipad, but in i , google drive, onedrive, and other services. (2017) Digitizable journals, like this one from rocketbool let you upload your notes to the — so you'll never hat owerry about losing your brilliant thoughts. (2017)

Snap a photo of your musings, and the software will crop it before sending it to dropbox, slack, google docs, or a handful of other applications. (2017) Clips are encrypted and stored securely in the

She began asking me questions about whether jibo sends (according to the app and company, he doesn't). (2017)

But siri, apple's voice assistant, can't make the speaker do much beyond the basics and can only summon music from apple-owned services. (2018)

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" = U+2601 Cloud Unicode Character

(2017)

