



## SIMformation

### Why The Internet Didn't Break

Just a few months into its fifty-first year, the Internet has proven its flexibility and survivability. In the face of a rapid world-wide traffic explosion from private, public and government entities requiring employees to work from home to help curb the spread of the coronavirus, some experts were concerned the bandwidth onslaught might bring the Internet to its knees. All indications are that while there have been hot spots, the Internet infrastructure has held its own so far – a silver lining of sorts in dreadful situation.

Evidence of the increased traffic is manifold:

- Video on Verizon's network is up 41%, VPN usage is up 65%, and there's been a tenfold increase in collaboration tool usage,
- Downstream traffic has increased up to 20% and upstream traffic has up to 40% during the last two months, according to Cox Communications,
- The DE-CIX (the Deutsche Commercial Internet Exchange) in Frankfurt set a new world record for data throughput on in early March hitting more than 9.1 Terabits per/second. Never before has so much data been exchanged at peak times at an Internet Exchange, the DE-CIX stated.

#### How is the Internet handling this situation?

Cisco said it has been analyzing traffic statistics with major carriers across Asia, Europe, and the Americas. An engineer there said "Our analysis at these locations shows an increase in traffic of 10% to 41% over normal levels. In every country (with Hong Kong, Italy and France and Russia seeing the biggest traffic jumps) traffic spiked with the decision to shut down non-essential businesses and keep people at home. Since then, traffic has remained stable or has experienced a slight uptick over the days that followed."

While overall things have been positive, the situation hasn't been perfect. There have been a variety of outages, according to ThousandEyes, which reports on outages among ISPs, cloud providers and conferencing services. Globally, the number of outages to ISPs hit a record high of 250 during the week of April 20-26, 124 of the in the U.S. Typically though, these problems have not been caused by networks being overwhelmed with traffic, but rather, from some cable cuts and equipment failures.

Network planning, traffic engineering and cutting-edge equipment can take most of the credit for the Internet's ability to adjust in times of need. The Cisco engineer stated, "IP was built to last through any sort of disaster, and the core was built to live through almost anything. Over the years there has been a tremendous amount of infrastructure and spending to build out

this massive network. We are no longer in the days of the wild west of years ago; the Internet is a critical resource and the expectations are much higher."

Indeed, the principle of over-building capacity is one of the key reasons the Internet has performed so well. "There was some anxiety as traffic began to ramp up at the start. We've seen a 35% increase in Internet traffic – but ultimately the networks have handled it quite well," said the CTO at CenturyLink. Internet planning actually took into account the demands a pandemic would place on the network, he said. "CenturyLink and other providers began developing pandemic plans more than a decade ago, and we knew that part of the response would rely significantly on our infrastructure," he said.

Other attributes have helped the Internet's performance as well. For example, AT&T said its artificial intelligence is helping remotely troubleshoot problems with customer equipment and identify issues before they become problems. "We've expedited deployments of new AI capabilities in certain markets that will allow us to balance the traffic load within a sector and across sectors to help avoid overloading specific cells and improve the experience," AT&T stated.

One indication of remote-worker impact comes from a Gartner survey of 317 CFOs and finance leaders in March that said 74% of businesses will move at least 5% of their previously on-site workforce to permanently remote positions post-COVID-19.

"Internet access has become increasingly vital to our health, safety, and economic and societal survival. As cities and countries across the globe ask their citizens to stay at home, billions of us are fortunate enough to be able to heavily rely on the Internet to fill the gaps in our work and life," according to a Cisco VP.

"There is no silver bullet on how to solve this problem," said a FaceBook spokesman. "It's going to take a lot in investment and innovation from network operators to drive costs out of the ecosystem so that they can pour more money back into the network," he said. "Infrastructure is having its moment right now, everyone is depending on it."

"The Internet is moving from huge to absolutely massive. It's moving from being critical to being essential to economies, businesses and governments," says Cisco. "As a result of COVID-19, we're getting a glimpse of what the Internet of the future is today."

## Web Skimming Sees Uptick

Crisis events such as the COVID-19 pandemic often lead to a change in habits that captures the attention of cybercriminals. With the confinement measures imposed in many countries, online shopping has soared and along with it, credit card skimming. According to Malwarebytes, web skimming increased by 26% in March over the previous month. While this might not seem like a dramatic jump, digital credit card skimming was already on the rise prior to COVID-19, and this trend will likely continue into the near future. While many merchants remain safe despite the increased volume in processed transactions, the exposure to compromised e-commerce stores is greater than ever.

Web skimming, also known under different terms, but made popular thanks to the “Magecart” moniker, is the process of stealing customer data, including credit card information, from compromised online stores.

Security trackers have observed how the number of skimming blocks from Anti-Virus programs are at the highest on Mondays (which happens to be the busiest day for online shopping), lowering down in the second half of the week and being at its lowest point on week-ends. The second observation is how the number of web skimming blocks increased moderately from January to February (2.5%) but then started to go up from February to March (26%). While this is still a moderate increase, security experts believe this marks a trend that will be more apparent in the coming months.

A great number of merchants do not keep their platforms up to date and also fail to respond to security disclosures. Often times, the last recourse to report a breach is to go public and hope that the media attention will bear fruit. Shopping online is convenient but not risk-free. Ultimately, users are the ones who can make savvy choices and avoid many pitfalls. Here are some recommendations:

- Limit the number of times you have to manually enter your credit card data. Rely on platforms where that information is already stored in your account or use one-time payment options.
- Check if the online store displays properly in your browser, without any errors or certain red flags indicating that it has been neglected.
- Do not take trust seals or other indicators of confidence at face value. Because a site displays a logo saying it’s 100% safe does not mean it actually is.
- If you are unsure about a site, you can use certain tools to scan it for malware or to see if it’s already on a blacklist.
- More advanced users may want to examine a site’s source code using Developer Tools for instance, which as a side effect may turn off a skimmer noticing it is being checked.

Security insiders expect web skimming activity to keep on an upward trend in the coming months as the online shopping habits forged during this pandemic continue on well beyond. Remember to watch your browsing habits and be sure to stay observant for any website you access, especially any involving e-commerce. For more information on security steps you can take, contact SIM2K.

## Microsoft Extends Support

Microsoft extended support by six months for several products, telling customers that SharePoint Server 2010 will now receive updates until April 13, 2021 and that Windows 10 1809 will get security fixes until Nov. 10, 2020.

“In response to the COVID-19 crisis and an increase in customer requests, we have decided to revise support for SharePoint Server 2010 products and technologies,” said a spokesman.

SharePoint Server 2010 was to have exited support Oct. 13. Meanwhile, the company also postponed the end-of-support date for Windows 10 1809. “To help ease some of the burdens customers are facing, we are going to delay the scheduled end-of-service date for the Home, Pro, Pro Education, Pro for Workstations, and IoT Core editions of Windows 10, version 1809, to November 10, 2020,” the Redmond, Wash. firm stated in the Windows message center. From June through November, Microsoft will provide vulnerability patches only. Windows 10 1809, which Microsoft released in November 2018, was originally set to exhaust its support May 12.

These deferments may not be Microsoft’s last. A large number of products are scheduled to fall off the support rolls this year and arguably need just as much extra time as SharePoint Server 2010 and Windows 10. Office 2010; Office 2016 on the Mac; separate applications, like Word 2010 and Excel 2010; and associated on-premises servers, including Exchange Server 2010 – all are due to expire Oct. 13.

Windows 10 also has some impending 2020 dates, too. Windows 10 Enterprise 1803 and Windows 10 Education 1803 are currently scheduled to lose support Nov. 10, while all versions of Windows 10 1903, from Home to Enterprise, are to retire Dec. 8.

Awarding everything now sporting a 2020 retirement date with six more months would shift the burden into next year. Office 2010, for example, would not lose support until April 13, 2021. Windows 10 1803 and 1903 would receive updates until May 11, 2021 and June 8, 2021, respectively.

It’s unclear whether Microsoft will extend all deadlines. It has a slew of factors to consider, ranging from its estimate for the length of time businesses will have employees working from home to an obvious desire not to unduly postpone revenue-producing upgrades and shifts to subscriptions.

Microsoft may want to keep support extensions to a minimum because of the disruption they cause to the overall schedule, but that horse has left the barn. In truth, the calendar is already a shambles. It seems reasonable that Microsoft will continue to add support time as the pandemic – and its impact on society and business both – continues. SIM2K will continue to watch these “out of support” dates and work with affected clients as necessary. Call us if you have questions.

## How COVID-19 Will Change Work

When COVID has receded in the U.S., business execs are going to find themselves running very different companies in very different ways. Company execs need to start talking with other C-levels now and figure out what they want their post-COVID company to look like. Let's start with the most obvious change: corporate telecommuting. By the way, "working from home" (WFH) is exactly the term you want to use if you want to guarantee that it will fail.

Here's the key distinction between WFH and corporate telecommuting: Most companies (again, in the pre-COVID days in the U.S.) thought of WFH as an occasional thing for convenience, as in during a blizzard or when the main office has a one-day power outage or on Fridays in the summer. That's not corporate telecommuting. Telecommuting is where the employee or contractor is based at the remote location full time. That's the jurisdiction where payroll taxes are calculated from, and when those workers have to come into headquarters, they are compensated for their travel. That's the only way corporate telecommuting works. That means that every office needs to have the same infrastructure/security arrangements as any other, granted one that is scaled for the number of employees at that location.

Pre-COVID, the typical large enterprise had somewhere between 3% and 9% of their full-time employees corporate telecommuting (stressing that this is not an occasional WFH situation for convenience). During COVID, that number has soared, with some enterprises today doing anywhere from 40% to 90%, with many finding themselves on the higher end of that range. When we're in post-COVID days those numbers are not going to ever return to pre-COVID levels, nor will they stay as high as they are in this COVID era. Estimates are that the typical enterprise will fall into the 30%-to-60% range, maybe even 40% to 70%. That is a gigantic increase from where things were in January 2020.

There are reasons why enterprise executives have resisted telecommuting efforts. First there is the always stupid "we've never done it that way." Secondly, there is a very real lack of support for telecommuters, overwhelmingly from execs who are not telecommuting. That is actually a real issue, one that undermines telecommuting and therefore becomes self-fulfilling. It is the haves-and-have-nots problem.

As we work through those issues, proper telecommuting infrastructure is slowly materializing. By the time companies are able to truly reopen fully, many of the technology and security issues with corporate telecommuting will be in a far better place. We are already seeing signs of improved productivity, and when quarantines are effectively over, many workers will find themselves far happier. No more multi-hour two-way commutes every workday, a more casual attire situation and a much lighter travel load. At the same time, post-COVID workers will be able to travel to headquarters when it truly makes sense, as well as doing travel for conferences and business partner interactions. From that perspective, this disaster has proved what telecommuting advocates have argued for years. But there is one psychological problem. A big mindset fear among some executives has been that telecommuting employees who happen to be parents of school-age or younger children will perform horribly in a telecommuting environment because of those kids.

That has been an unfounded fear, because of school, after-

## "Random Tid-Bytes"

### Google Cracks Down

Done in by its own success, Google has announced it was cracking down on a glut of Chrome add-ons that are as noxious to the browser as spam is to e-mail. "The increase in adoption of the extension platform has also attracted spammers and fraudsters introducing low-quality and misleading extensions in an attempt to deceive and trick our users into installing them to make a quick profit," wrote the policy manager for the Chrome in a company blog. "We want to ensure that the Chrome Web Store is clear and informative and not muddled with copycats, misleading functionalities or fake reviews and ratings." To give itself authority to scrub spam-like extensions from the e-market - the only sanctioned source of Chrome add-ons - Google added some new rules to its developer program policies. They will be enforced starting Aug. 27, or two days after the currently scheduled release date for Chrome 85. "After [Aug. 27], extensions that violate the updated policy may be taken down and disabled," Googlesaid, threatening not only to yank violators from the mart but also switch off in copies of Chrome.

### Telehealth Finds a Place in the Pandemic

Demand for telehealth systems has boomed in response to the ongoing COVID-19 pandemic, setting the stage for telemedicine to finally achieve at least some of its long-promised benefits. Analysts expect widespread use to continue even after the current crisis abates. Telehealth broadly involves the remote provision of healthcare between doctors and patients, most often by way of video consultations, though it can also be used for teleradiology and remote patient monitoring. Use of telehealth applications has been rising steadily for years, though adoption has varied across different organizations. As of January, only 24% of U.S. healthcare organizations had a virtual care program in place, according to Forrester. That's changed rapidly in recent months as COVID-19 spread, forcing people to avoid doctors' offices, hospitals, medical clinics - and, of course, the workplace. Into the resulting gap, telehealth companies have moved to enable doctors to connect with their patients remotely. A key factor in the recent boom has been the rollout of changes to government regulations around the use of telehealth systems. This includes, critically, the expansion of insurance reimbursement by the Centers for Medicare & Medicaid Services (CMS) to extend coverage for telehealth appointments. And HIPAA data privacy rules have been relaxed to enable the use of consumer video apps such as Apple's FaceTime and Microsoft's Skype as a temporary means of connecting doctors and patients.

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care/before-care and even childcare arrangements in the home. You can see the problem here. Because schools are closed and childcare is almost impossible during COVID restrictions, the childcare issue has, sadly, reinforced some of the worst fears of those telecommuting-resistant execs. They need to understand that in a post-COVID lockdown reality, those childcare issues - for the most part - are not going to interfere with professionals telecommuting.

Other than the childcare issue, the forced telecommuting has proved just about all of the advantages that advocates have always argued. It will be interesting to see how many minds change when this is all over.

## Where is Google taking the Chrome Operating System?

Chromebooks started out all about simplicity. Lately, though, they've gotten kinda complicated. It might be a side effect of growth, or maybe just the piecemeal manner in which Google's Chrome OS platform has expanded, but Chromebooks today have so many program-running possibilities, it is difficult to keep them straight. The computers can still run web apps, of course, just like in their earliest days, but they also now support the similar-looking (but more powerful) progressive web apps, as well as the apps you run on your Android phone.

And most confusing of all, those app types overlap in perplexing ways. If you want to use Google Photos, for instance, you can rely on the regular web app, opt for the progressive web app, or install the Android app for the service. Need to hop on a Zoom call? You can grab the Chrome extension, install the Android app, or other versions. Each option offers a slightly different experience with slightly different features, and they're absolutely not all equal.

As a result, it practically takes a cheat sheet to figure out and remember which type of app is best for which purpose and where you should go to find it. (The Chrome Web Store? The Google Play Store? ) Or, if you're like most casual Chromebook users, you might just look at whatever source comes to mind first without even considering the other options.

The complexity of the Chrome OS app situation has become a real problem. Versatility is a strength, for sure, but it can also end up being a weakness when it isn't presented properly. How do you bring all these different and often-duplicative app types together in a way that's effortless to understand and simple to manage?

It seems Google may finally be onto a solution – or at least the start of one. Google appears to be working to position the Play Store as not just a place for Android apps, as it's traditionally been, but as a broader one-stop shop for multiple types of apps on Chromebooks – with the store itself determining which app type makes the most sense for any given purpose and then installing the appropriate option for you. And as subtle of a shift as it may seem, it goes a long way in detangling the complexity that's been present in the Chrome OS app ecosystem for quite a while.

Now, all things in perspective: So far, this new setup is known to exist in precisely two places: in the Play Store page for the Twitter app and the in Play Store page for the YouTube TV app. And what's especially interesting is that those pages don't look any different than any other app pages on the Play Store – and in fact, there is no real indication you're receiving anything other than an Android app when you visit.

When you click the Install button on either page from a Chromebook, you end up with a lightweight app that looks, acts and feels like an app. It opens quickly, runs smoothly in any size or orientation, and works perfectly well online or off. Only an astute observer will notice it's not actually the Android app but its progressive web app cousin. And that's exactly how it should be: No one needs to know or think about what type of app they're using at any given moment. They should just be able to go to a single, obvious storefront, find the software best suited for their current environment, and install it – then know it will work well from that point forward.

So what industry experts believe we are seeing now is only the beginning of a broader effort to turn the Play Store into a streamlined source of apps for Chromebooks – and, who knows, maybe eventually other types of Google products.

Google has been experimenting with the idea of progressive web apps on Android for a while now. The company already makes it possible for developers to embed such programs within traditional Android app structures and then put those into the Play Store. So the next step would be to start offering up standalone progressive web apps directly in place of Android apps for phones.

When you combine this latest development with the pending demise of Chrome apps and the repositioning of the Chrome Web Store as a place strictly for browser-specific themes and extensions, Chrome OS's complex web of apps suddenly starts looking a lot less muddled, especially since Google recently added an all-in-one app management screen into the Chrome OS system settings – a single place where you can see, adjust, and uninstall any of your apps, regardless of their nature.

Put all these pieces together with the apparent new strategy to use the Play Store as a primary storefront, and you've got the potential to turn Chrome OS's mishmash of overlapping app types into a more unified software experience – one where what type of app you're using almost becomes irrelevant. Instead of thinking about Android apps or progressive web apps, they all become Chromebook apps from the user's perspective.

It's still a tall order, and we certainly aren't there yet. But this latest step gives me hope that Google might finally be on the right path — and maybe, just maybe, might be on its way to bringing back a touch of the simplicity Chrome OS once had but then lost along the way.



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