USN-4763-1: Pillow vulnerabilities

It was discovered that Pillow incorrectly handled certain Tiff image files.
If a user or automated system were tricked into opening a specially-crafted
Tiff file, a remote attacker could cause Pillow to crash, resulting in a
denial of service, or possibly execute arbitrary code. This issue only
affected Ubuntu 20.04 LTS and Ubuntu 20.10. (CVE-2021-25289, CVE-2021-25291)
It was discovered that Pillow incorrectly handled certain Tiff image files.
If a user or automated system were tricked into opening a specially-crafted
Tiff file, a remote attacker could cause Pillow to crash, resulting in a
denial of service, or possibly execute arbitrary code. (CVE-2021-25290)

It was discovered that Pillow incorrectly handled certain PDF files. If a
user or automated system were tricked into opening a specially-crafted
PDF file, a remote attacker could cause Pillow to hang, resulting in a
denial of service. This issue only affected Ubuntu 18.04 LTS, Ubuntu 20.04
LTS, and Ubuntu 20.10. (CVE-2021-25292)

It was discovered that Pillow incorrectly handled certain SGI image files.
If a user or automated system were tricked into opening a specially-crafted
SGI file, a remote attacker could possibly cause Pillow to

crash,
resulting in a denial of service. This issue only affected Ubuntu 18.04
LTS, Ubuntu 20.04 LTS, and Ubuntu 20.10. (CVE-2021-25293)

Jiayi Lin, Luke Shaffer, Xinran Xie, and Akshay Ajayan discovered that
Pillow incorrectly handled certain BLP files. If a user or automated system
were tricked into opening a specially-crafted BLP file, a remote attacker
could possibly cause Pillow to consume resources, resulting in a denial of
service. This issue only affected Ubuntu 18.04 LTS, Ubuntu 20.04 LTS, and
Ubuntu 20.10. (CVE-2021-27921)

Jiayi Lin, Luke Shaffer, Xinran Xie, and Akshay Ajayan discovered that
Pillow incorrectly handled certain ICNS files. If a user or automated
system were tricked into opening a specially-crafted ICNS file, a remote
attacker could possibly cause Pillow to consume resources, resulting in a
denial of service. (CVE-2021-27922)

Jiayi Lin, Luke Shaffer, Xinran Xie, and Akshay Ajayan discovered that
Pillow incorrectly handled certain ICO files. If a user or automated
system were tricked into opening a specially-crafted ICO file, a remote
attacker could possibly cause Pillow to consume resources, resulting in a
denial of service. (CVE-2021-27922)

New open source project helps musicians jam together even when they're not together

Today, the Linux Foundation announced that it would be adding Rend-o-matic to the list of Call for Code open source projects that it hosts. The Rend-o-matic technology was originally developed as part of the Choirless project during a Call for Code challenge as a way to enable musicians to jam together regardless of where they are. Initially developed to help musicians socially distance because of COVID 19, the application has many other benefits, including bringing together musicians from different parts of the world and allowing for multiple versions of a piece of music featuring various artist collaborations. The artificial intelligence powering Choirless ensures that the consolidated recording stays accurately synchronized even through long compositions, and this is just one of the pieces of software being released under the new Rend-o-matic project.

Developer Diaries — Uniting musicians with AI and IBM Cloud Functions
Created by a team of musically-inclined IBM developers, the Rend-o-matic project features a web-based interface that allows artists to record their individual segments via a laptop or phone. The individual segments are processed using acoustic analysis and AI to identify common patterns across multiple segments which are then automatically synced and output as a single track. Each musician can record on their own time in their own place with each new version of the song available as a fresh MP3 track. In order to scale the compute needed by the AI, the application uses IBM Cloud Functions in

a serverless environment that can effortlessly scale up or down to meet demand without the need for additional infrastructure updates. Rend-o-matic is itself built upon open source technology, using Apache OpenWhisk, Apache CouchDB, Cloud Foundry, Docker, Python, Node.js, and FFmpeg.

Since its creation, Choirless has been incubated and improved as a Call for Code project, with an enhanced algorithm, increased availability, real-time audio-level visualizations, and more. The solution has been released for testing, and as of January, users of the hosted Choirless service built upon the Rend-o-matic project — including school choirs, professional musicians, and bands — have recorded 2,740 individual parts forming 745 distinct performances.

Call for Code invites developers and problem-solvers around the world to build and contribute to sustainable, open source technology projects that address social and humanitarian issues while ensuring the top solutions are deployed to make a demonstrable difference. Learn more about Call for Code. You can learn more about Rend-o-matic, sample the technology, and contribute back to the project at https://choirless.github.io/

The post New open source project helps musicians jam together even when they're not together appeared first on Linux Foundation.

LF Edge's State of the Edge 2021 Report Predicts Global

Edge Computing Infrastructure Market to be Worth Up to $800 Billion by 2028

- *COVID-19 highlighted that expertise in legacy data centers could be obsolete in the next few years as the pandemic forced the development of new tools enabled by edge computing for remote monitoring, provisioning, repair and management.*
- *Open source hardware and software projects are driving innovation at the edge by accelerating the adoption and deployment of applications for cloud-native, containerized and distributed applications.*
- *The LF Edge taxonomy, which offers terminology standardization with a balanced view of the edge landscape, is based on inherent technical and logistical trade offs spanning the edge to cloud continuum is gaining widespread industry adoption.*
- *Seven out of 10 areas of edge computing experienced growth in 2020 with a number of new use cases that are driven by 5G.*

SAN FRANCISCO — March 10, 2020 — State of the Edge, a project under the LF Edge umbrella organization that established an open, interoperable framework for edge independent of hardware, silicon, cloud, or operating system, today announced the release of the 4th annual, State of the Edge 2021 Report. The market and ecosystem report for edge computing shares insight and predictions on how the COVID-19 pandemic disrupted the status quo, how new types of critical infrastructure have emerged to service the next-level requirements, and open source collaboration as the only way to efficiently scale Edge Infrastructure.

Tolaga Research, which led the market forecasting research for this report, predicts that between 2019 and 2028, cumulative capital expenditures of up to $800 billion USD will be spent on new and replacement IT server equipment and edge computing facilities. These expenditures will be relatively evenly split between equipment for the device and infrastructure edges.

"Our 2021 analysis shows demand for edge infrastructure accelerating in a post COVID-19 world," said Matt Trifiro, co-chair of State of the Edge and CMO of edge infrastructure company Vapor IO. "We've been observing this trend unfold in real-time as companies re-prioritize their digital transformation efforts to account for a more distributed workforce and a heightened need for automation. The new digital norms created in response to the pandemic will be permanent. This will intensify the deployment of new technologies like wireless 5G and autonomous vehicles, but will also impact nearly every sector of the economy, from industrial manufacturing to healthcare."

The pandemic is accelerating digital transformation and service adoption.

Government lockdowns, social distancing and fragile supply chains had both consumers and enterprises using digital solutions last year that will permanently change the use cases across the spectrum. Expertise in legacy data centers could be obsolete in the next few years as the pandemic has forced the development of tools for remote monitoring, provisioning, repair and management, which will reduce the cost of edge computing. Some of the areas experiencing growth in the Global Infrastructure Edge Power are automotive, smart grid and enterprise technology. As businesses began spending more on edge computing, specific use cases increased including:

- Manufacturing increased from 3.9 to 6.2 percent, as companies bolster their supply chain and inventory management capabilities and capitalize on automation

- technologies and autonomous systems.
  - Healthcare, which increased from 6.8 to 8.6 percent, was buoyed by increased expectations for remote healthcare, digital data management and assisted living.
  - Smart cities increased from 5.0 to 6.1 percent in anticipation of increased expenditures in digital infrastructure in the areas such as surveillance, public safety, city services and autonomous systems.

"In our individual lock-down environments, each of us is an edge node of the Internet and all our computing is, mostly, edge computing," said Wenjing Chu, senior director of Open Source and Research at Futurewei Technologies, Inc. and LF Edge Governing Board member. "The edge is the center of everything."

Open Source is driving innovation at the edge by accelerating the adoption and deployment of edge applications.

Open Source has always been the foundation of innovation and this became more prevalent during the pandemic as individuals continued to turn to these communities for normalcy and collaboration. LF Edge, which hosts nine projects including State of the Edge, is an important driver of standards for the telecommunications, cloud and IoT edge. Each project collaborates individually and together to create an open infrastructure that creates an ecosystem of support. LF Edge's projects (Akraino Edge Stack, Baetyl, EdgeX Foundry, Fledge, Home Edge, Open Horizon, Project EVE, and Secure Device Onboard) support emerging edge applications across areas such as non-traditional video and connected things that require lower latency, and faster processing and mobility.

"State of the Edge is shaping the future of all facets of just edge computing and the ecosystem that surrounds it," said Arpit Joshipura, General Manager of Networking, IoT and Edge. "The insights in the report reflect the entire LF Edge community and our mission to unify edge computing and support

a more robust solution at the IoT, Enterprise, Cloud and Telco edge. We look forward to sharing the ongoing work State of the Edge that amplifies innovations across the entire landscape."

Other report highlights and methodology

For the report, researchers modeled the growth of edge infrastructure from the bottom up, starting with the sector-by-sector use cases likely to drive demand. The forecast considers 43 use cases spanning 11 verticals in calculating the growth, including those represented by smart grids, telecom, manufacturing, retail, healthcare, automotive and mobile consumer services. The vendor-neutral report was edited by Charlie Ashton, Senior Director of Business Development at Napatech, with contributions from Phil Marshall, Chief Research officer at Tolaga Research; Phil Shih, Founder and Managing Director of Structure Research; Technology Journalists Mary Branscombe and Simon Bisson; and Fay Arjomandi, Founder and CEO of mimik. Other highlights from the State of the Edge 2021 Report include:

- **Off-the-shelf services and applications are emerging that accelerate and de-risk the rapid deployment of edge in these segments.** The variety of emerging use cases is in turn driving a diversity in edge-focused processor platforms, which now include Arm-based solutions, SmartNICs with FPGA-based workload acceleration and GPUs.
- **Edge facilities will also create new types of interconnection.** Similar to how data centers became meeting points for networks, the micro data centers at wireless towers and cable headends that will power edge computing often sit at the crossroads of terrestrial connectivity paths. These locations will become centers of gravity for local interconnection and edge exchange, creating new and newly efficient paths for data.
- **5G, next-generation SD-WAN and SASE have been standardized**. They are well suited to address the

multitude of edge computing use cases that are being adopted and are contemplated for the future. As digital services proliferate and drive demand for edge computing, the diversity of network performance requirements will continue to increase.

"The State of the Edge report is an important industry and community resource. This year's report features the analysis of diverse experts, mirroring the collaborative approach that we see thriving in the edge computing ecosystem," said Jacob Smith, co-chair of State of the Edge and Vice President of Bare Metal at Equinix. "The 2020 findings underscore the tremendous acceleration of digital transformation efforts in response to the pandemic, and the critical interplay of hardware, software and networks for servicing use cases at the edge."

Download Report
Download the report here.

State of the Edge Co-Chairs Matt Trifiro and Jacob Smith, VP Bare Metal Strategy & Marketing of Equinix, will present highlights from the report in a keynote presentation at Open Networking & Edge Executive Forum, a virtual conference on March 10-12. Register here ($50 US) to watch the live presentation on March 12 at 7 am PT or access the video on-demand.

Trifiro and Smith will also host an LF Edge webinar to showcase the key findings on March 18 at 8 am PT. Register here.

About The Linux Foundation

Founded in 2000, the Linux Foundation is supported by more than 1,000 members and is the world's leading home for collaboration on open source software, open standards, open data, and open hardware. Linux Foundation's projects are critical to the world's infrastructure including Linux,

Kubernetes, Node.js, and more. The Linux Foundation's
methodology focuses on leveraging best practices and
addressing the needs of contributors, users and solution
providers to create sustainable models for open collaboration.
For more information, please visit us at linuxfoundation.org.

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USN-4762-1:   OpenSSH
vulnerability

It was discovered that the OpenSSH ssh-agent incorrectly
handled memory. A
remote attacker able to connect to the agent could use this
issue to cause
it to crash, resulting in a denial of service, or possibly
execute
arbitrary code.

Manage Debian Repositories with a GUI

You can manage the repositories in Debian with the terminal just fine. It's not very difficult, but you can also easily manage them with a GUI. Here's how!

Debian is an operating system that is quite popular to build off. There are many derivatives and derivatives of derivatives. Debian first appeared on the scene in 1993 and is the parent of popular distros like Ubuntu – and so the grandparent of the many distros based on Ubuntu. I strongly suspect that more people use Debian derivatives than actually use Debian itself.

I'm going to assume that you have a brand new copy of Debian freshly installed. Furthermore, I'm going to assume that you only grabbed the first .iso of the lot.

If the above is true, the first thing you're going to need to do is get rid of the cdrom entries in your apt sources. If you try to install (or update) and have cdrom listed in your sources then you'll bump into some errors. So, let's deal with that first.

Start your terminal with the trusty CTRL + ALT + T.

Now, to fix that cdrom thing we're going to need to edit your 'sources.list' file. To do that, we enter this in the terminal:

[code]sudo nano /etc/apt/sources.list[/code]

Find the line that starts with 'cdrom' and put a **#** in front of it to comment it out. It should look a bit like this:

That's opened after editing. Your version may look different.

Now, go ahead and save it. Seeing as we're using nano, you do that pressing CTRL + X, then Y, and then ENTER.

At this point, we need to make sure the system knows we made that change. So, we're going to update the lists of software available with this:

[code]sudo apt update[/code]

That shouldn't take all that long, especially if it's a new installation and the software was updated during the install. So, our final steps in the terminal are these:

[code]sudo apt install software-properties-gtk[/code]

Pound on the enter key, type your password if asked, and pound on the enter key again after entering the 'y' response if asked.

That's it. You're done. If you look in your menu, you should see a new entry called "Software & Updates". Root around in the tabs and revel in your new tool to manage repos and a few other things.
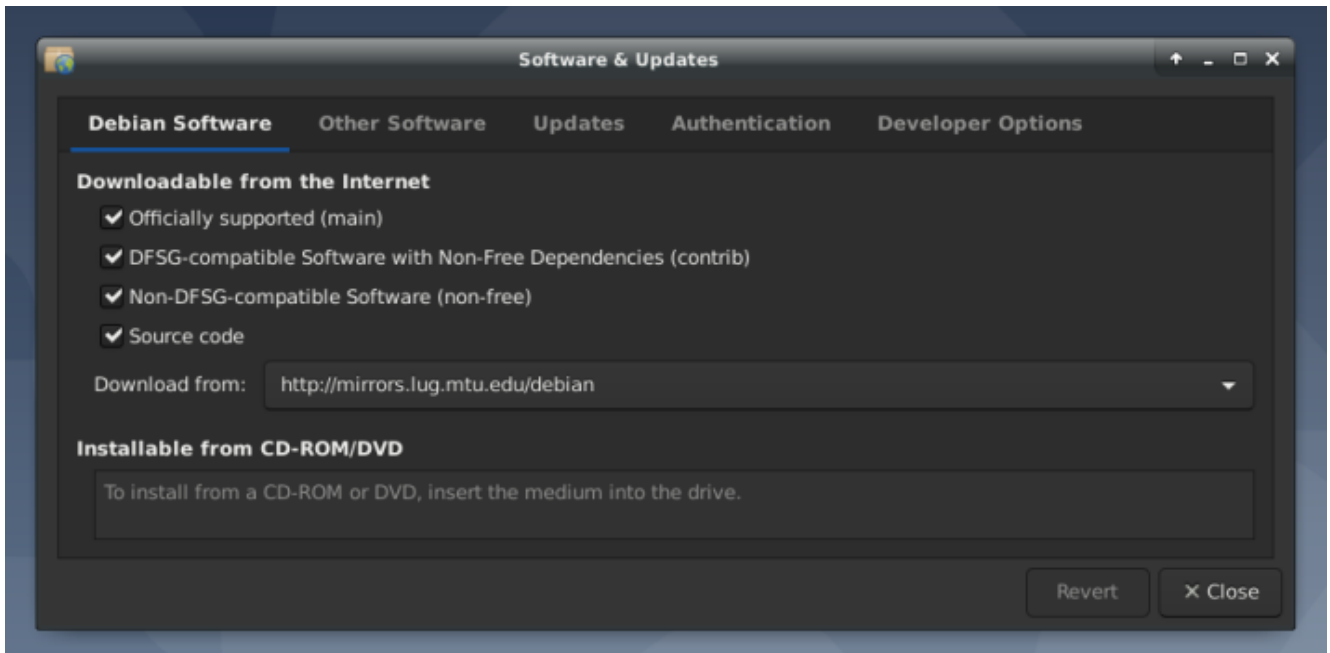
See? Mission accomplished and it wasn't even all that painful! Congratulations!

As always, thanks for reading. It's truly appreciated. I check my stats most every day and have been enjoying seeing them trend upwards. The site is actually starting to get indexed and will hopefully be a repository of information for years to come.

Don't forget to sign up for the newsletter. I'll only send you automatic updates when there's something published (or meta stuff concerning the site). I shan't spam nor sell your email address. In fact, odds are good that I won't even look at your email address, for I am a lazy and disinterested man. Have a great day!