OPEN MAINFRAME PROJECT ANNUAL REPORT 2020

OPEN MAINFRAME COMMUNITY,

2020 certainly was a year of challenge that impacted each and every one of us. The worldwide pandemic shifted the way we work, the way we live and the way our children learn. Quarantined at home was stressful but that stress was exacerbated when the long standing racial tensions in the U.S. came to a forefront. We dealt with the emotions differently but most of us reflected on these issues and made an effort to ensure our community is a safe place for collaboration as individuals around the globe turned to open source.

This year, more than ever, open source became an outlet for people to virtually connect with others. Communities were strengthened as new collaborators joined projects and new initiatives were formed. Our role at the Open Mainframe Project is to be the steward of these efforts, and every day I work with this community I am humbled by the professionalism, generosity, and desire to ensure this ecosystem can sustain for decades to come. I personally want to thank each and every one of you who have contributed to those efforts, especially in this unusual difficult time. Your talent and dedication is the reason we nearly doubled our projects, grew our membership base, and had an absolutely stellar first-ever Open Mainframe Summit.

This annual report will give you an overview of all the accomplishments the Open Mainframe Project community made this year despite the challenges and the quotes that got us through it. We are proud of our community and hope this gives you a look at how hard we all worked and the benefits to the ecosystem.

"Find a group of people who challenge and inspire you, spend a lot of time with them, and it will change your life forever."

Cheers to the new year!

John Mertic, Director of Program Management at the Linux Foundation

"WHEN THE GOING GETS TOUGH, THE TOUGH GET GOING."

Len Santalucia,
Open Mainframe Project
Governing Board Chair,
Vicom Infinity

What has struck me the most is that in the midst of a worldwide pandemic, the mainframe community continued to collaborate and support each other. For example, when the need for COBOL talent came from our state and local governments, the Open Mainframe Project community, answered the call by creating two forums, educational materials and a dedicated working group to push awareness and training. Another example is when the CBT Tape project, which has been around for 45 years, needed the infrastructure to continue advancing for the next 45 years. Open Mainframe Project stepped forward to provide it resources through member company Vicom Infinity.

NEW PROJECTS

Open Mainframe Projects Technical Advisory Committee was certainly busy this year! Each new project is presented to the TAC, which consists of technical volunteers from member companies, reviewed and approved. This year, the TAC helped more than double the number of Open Mainframe Projects moving from 8 to 17 by launching CBT Tape, COBOL Training Program, COBOL Working Group, GenevaERS, Mainframe Open Education, Software Discovery Tool, and Tessia. These new projects join ADE, Ambitus, ATOM, Feilong, Mentorship, Polycephaly, TerseDecompress, Zowe, Zowe Conformance Program and Zorow as projects led by the Open Mainframe community.

The roots of the open source movement trace back to SHARE but much of that initial collaboration came together with CBT (Connecticut Bank and Trust) Tape in 1975. CBT Tape is an open library of free software distribution for the IBM mainframe Multiple Virtual Storage (MVS) and OS/390 operating system environment that continues to grow and get updated. With each iteration of these tapes, new and ingenious tools and examples became available. Now under the umbrella, CBT Tape will be able to leverage Open Mainframe Project resources to be better equipped to engage with the next generation of mainframers.

The COBOL Training Course offers introductory-level materials with Microsoft's Visual Studio Code editor (VS Code) and hands-on labs. It was created directly in response to the demand for more COBOL talent and compliments the Q&A forum and volunteer resource, which immediately had hundreds of participants when it went live in April. At the end of December 2020, the forum listed more than 1700 COBOL volunteers, mentors, and experts. This course, which continued to gain momentum this year, offers real-world Enterprise COBOL demonstrations to work on. It will continue to be refreshed as more materials and resources are created.

OPEN MAINFRAME PROJECT

COBOL
Working Group

To further advance the promotion of COBOL, Open Mainframe Project launched its first-ever working group. In September, the COBOL Working Group was created to address misunderstanding about the technology and promote its continued usage, learning and discourse. By the end of 2020, the group had 84 active participants.

OPEN MAINFRAME PROJECT

Software Discovery Tool

There are many different open source software available on Linux for the mainframe that it is often overwhelming for developers. For those who don't know where to begin, Open Mainframe Project's Software Discovery Tool will help match developers with the best open source software that meets their needs. Developers can search through open source software for zArchitecture/s390x for any Z operating system from any source, any repo, anywhere, in one place.

OPEN MAINFRAME PROJECT

Education

For decades, the technology industry has struggled to replenish the workforce with talented, young professionals. Open Mainframe Project's Mainframe Open Education project drives access to legacy systems through a simple platform that offers up-to-date materials and collaboration. With a clear learning path and the availability of materials, this project aims to help fill the gap with young mainframe professionals that will step into the roles vacated by their retiring colleagues.

OPEN MAINFRAME PROJECT

GenevaERS
The Single-Pass Optimization Engine

GenevaERS is the single pass optimization engine for extraction and reporting on z/OS. This project offers businesses a high-level reporting solution uniquely tuned for big data scanning and improved financial transparency for better decision-making. GenevaERS can create multiple outputs to enhance analysis and produce high-level, scaled and integrated reports for some of the largest businesses in the world.

OPEN MAINFRAME PROJECT

Tessia

Tessia is an open source project for Z resource management and automated installation of Linux distribution, manages relationships between Z datacenter resources and allocates them to specific projects and users according to a role-based schema. Using these resources, Tessia can be included into existing pipelines and with pre-release distributions and drive faster release cycles and adoption of new technologies. Additionally, it enables developers to effortlessly bring up their environments or try out new releases before migration. In general, the mission of the new project improves experience with Linux on Z, which in turn facilitates faster adoption of open source on Z platform.

There has never been a better time to implement open source on the mainframe. Whether you are part of the member ecosystem or participate in the community, we appreciate your help in keeping Open Mainframe Project as an industry focal point and resource that will hopefully hold this leadership position for many years to come.

"EVERY SUCCESS STORY IS A TALE OF CONSTANT ADAPTATION, REVISION AND CHANGE."

Stacey Miller, Co-Chair of the Open Mainframe Project Marketing Committee, SUSE

Happy 5th Anniversary! When the Linux Foundation launched the Open Mainframe Project in 2015, we had one project to advance mainframe technology. Today, we are an umbrella project that is home to 17 different open source projects - including a COBOL Working Group and a Zowe Conformance Program. This is essentially at a 1600 percent increase since launch!

But that's not all. 2020 was the year of the virtual event and online connections. The Open Mainframe Project was set to host our inaugural event in New York City but we quickly had to transition to a digital event. With leadership from the Linux Foundation event team, the Open Mainframe Project Program Committee, Platinum sponsors Broadcom, IBM, and Rocket Software; Gold sponsors SUSE and Vicom Infinity and Silver sponsor Micro Focus, we pulled off a flawless inaugural Open Mainframe Summit in September. More than 380 registrants from 176 companies joined the two-day conference that featured 36 sessions, including keynotes, breakout sessions, and lightning talks that had a mix of executive and technical content. Some of the most popular sessions as noted by attendees were the Women

in Tech panel, COBOL sessions, new mainframer journey, and project overview sessions for Polycephaly, Feilong, Zowe, and Ambitus.

The transparency report can be found here and all of the videos can be watched here. And while we were sad to not meet in person in NYC, we were thrilled about our first event. We look forward to replicating this success in 2021. Stay tuned for the details.

So, while 2020 had its unexpected twists and turns, the Open Mainframe Project was able to pivot and thrive -- ending the year even stronger than we began!

"UNITY IS STRENGTH... WHEN THERE IS TEAMWORK AND COLLABORATION, WONDERFUL THINGS CAN BE ACHIEVED."

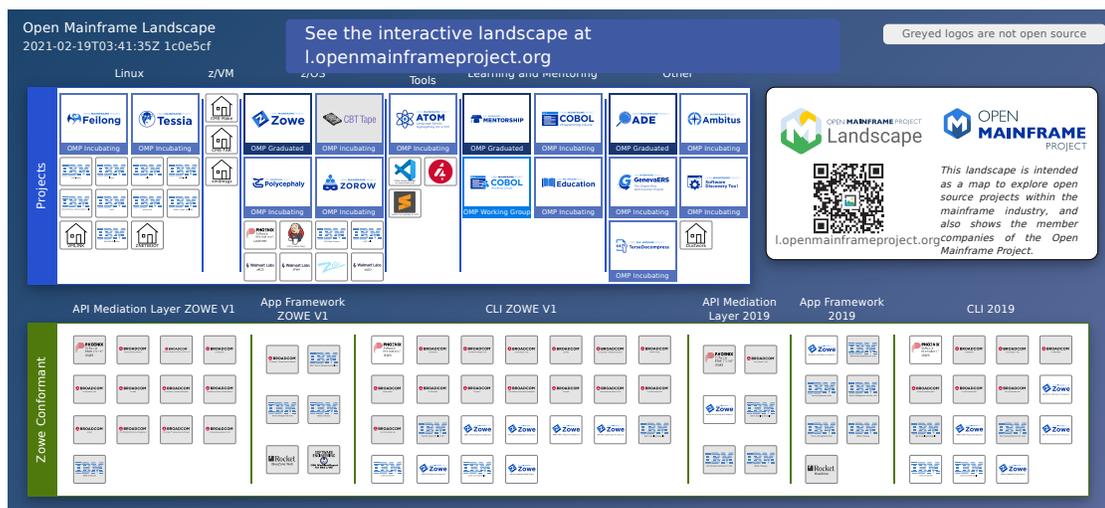*David Stokes, Open Mainframe Project Governing Board Member, Broadcom*

The Open Mainframe Project, which launched with 12 founding members, is now comprised of 41 business and academic organizations. That's an increase of 225 percent in five years. In fact, when compared to last year, the project ecosystem grew 14 percent with new members coming in with extensive technology, mainframe, COBOL and open source expertise.

Thank you to HCL Technologies, Micro Focus, Red Hat, Software Engineering GmbH and YADRO for joining the Open Mainframe Project ecosystem this year. Several of the members immediately jumped into contributing to projects including the COBOL Working Group, the COBOL Training Program and Zowe.

OUR LANDSCAPE

Big thanks to CNCF for the original project development of the landscapeapp, along with Open Mainframe Project community members helping with the categorization and curation of the initial entries.

These new members join Platinum Members ADP, Broadcom, IBM, Rocket Software and SUSE; Silver Members Canonical, GT Software, Phoenix Software, Precisely, Vicom Infinity and Zoss Team LLC as well as 19 academic institutions such as Beijing Institute of Technology, Marist College, North Carolina Agricultural and Technical State University, South China University of Technology and Virginia Commonwealth University (VCU).

The core of Open Mainframe Project is collaboration and, as we strive to build awareness and understanding of the power of mainframes, we also works closely with several of our Associate Members of like-minded organizations including Academic Mainframe Consortium, EMA Fit for Mainframe, Guide Share Europe, Guide Share Europe UK Region and SHARE.

With the strength of this ecosystem and a passionate community, we will continue to push the adoption of open source on the mainframe and all of the technologies that go with it.

"ALONE, WE MAKE SMALL CONTRIBUTIONS; TOGETHER, OUR CONTRIBUTIONS TRANSFORM THE ECOSYSTEM"

Coreen Wilson, Open Mainframe Project Marketing Committee Member

The Open Mainframe Project has united technology giants, academic institutions, and startups from all over the world. It has also created a community of diverse and talented developers, students and innovators who are passionate about technology related to the mainframe. Zowe is a great example of how to bring both builders and consumers together in an active and popular project to collaboratively tailor new technology to the user experience. Additionally, Zowe Explorer was used in the Master the Mainframe program and Open Mainframe Project's COBOL Training Course this year. This provided an open and easy access for students and developers who were learning mainframe skills for the first time or those who wanted a refresher.

The Zowe community continues to grow strong with almost 231 committers, more than 27,680 commits and more than 1,650 developers exchanging information, best practices and questions on Slack. This year, the project continued its momentum and achieved several milestones. Zowe, an open source software framework for the mainframe that strengthens integration with modern enterprise applications, released version 1.17 with several

notable features and enhancements. Learn more in the release notes.

The Zowe Leadership Committee also updated and revamped the Zowe Conformance Program, which has helped Open Mainframe Project members and community participants incorporate Zowe with new and existing products that enable integration of mainframe applications and data across the enterprise.

In this refreshed program, each extensible component's test criteria was modified to allow exploitation of the Zowe Long Term Support (LTS) capabilities. Applications that satisfy the new testing criteria requirements earn a Zowe "V1" conformance badge. By the end of 2020, there were 44 products from Broadcom, IBM, Phoenix Software, Rocket Software, Software Engineering have implemented extensions based on the Zowe LTS framework and earned these members conformance badges.

With everyone home bound this year, Open Mainframe Project launched a 3-month virtual hackathon that aimed to educate developers, students, engineers and makers around the world about the Zowe framework and how it can be used to create enterprise applications.

Three teams participated in the Hackathon; Team Automazing (HCL Technologies), Team Puzzles (Broadcom), and Team CZCS (IBM) you can learn more about their project presentations on YouTube. The winner of the Hackathon was Team Puzzles, who presented their solution at Open Mainframe Summit. The video can be found here.

"DIVERSITY IS THE ART OF INDEPENDENTLY THINKING TOGETHER."
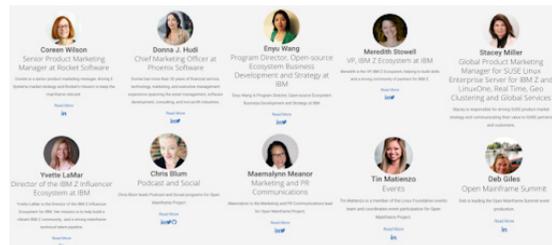

Yvette A LaMar, Co-Chair of the Open Mainframe Project Marketing Committee

Diversity and Inclusion is a very important topic that rose to top of mind across the globe in 2020. From an Open Mainframe Project perspective, promoting diversity and encouraging inclusiveness in our projects and our community drives better results. We get more opinions, different perspectives, innovative ideas – resulting in greater outcomes. We see diversity and inclusion not only as a critical part of where our society needs to go but also is a critical part of our community's success.

The lack of diversity in technology is especially more notable in the mainframe industry. In fact, OMP partnered with SHARE again this year on their Women in IT initiative at both the Fort Worth and the Digital SHARE conferences. Both events were very successful. In addition, the OMP hosted a Women in IT panel during the Open Source Summit Europe focusing on Diversity in Diversity. Six accomplished women spoke about how they got their start in technology and what led them to their current roles. You can view the video here.

From an OMP organizational perspective women comprise 35% of our open mainframe project leadership through our governing board, technical advisory council, outreach committee, and Linux Foundation staff. This percentage increases when you add in the leading contributors in various projects. Though this isn't perfect, we continue to strive for equal representation and are committed to having diverse voices heard in our community through more partnerships and activities next year.

"EDUCATION IS THE MOST POWERFUL TOOL WHICH YOU CAN USE TO CHANGE THE WORLD."

Bob Dahlberg, Chair of the Open Mainframe Project Mentorship Program

In addition to our commitment to diversity and inclusion, Open Mainframe Project enhanced our training resources this year. The project quickly worked with members to assemble the COBOL Training Course that offers a refresher or introductory overview of the language to new or returning developers.

As mentioned, Mainframe Open Education will offer a clear learning path that rejuvenates the workforce and drives access to business-critical systems. The project brings new talent together with mainframe experts and learning resources to educate and train the next generation of mainframers.

The Mainframe Open Education project is closely aligned with the Open Mainframe Project's Mentorship program. Launched in 2017, the Mentorship program has helped more than 40 students learn more and gain experience with Linux, open source, and mainframes. Students work closely with mentors from member companies like Broadcom, IBM, Rocket Software, SUSE and Vicom Infinity on a variety of open source projects to expand their mainframe knowledge and skills as a critical stepping stone to a productive and rewarding career. This year, Open Mainframe Project welcomed 11 new mentees in May and delivered a presentation at the Linux Foundation's Open Source Summit Europe. The videos can be found here.

"TURNING CONVERSATIONS INTO COLLABORATION ACROSS A COMMUNITY BUILDS BETTER SKILLS FOR BETTER LIVES."

Maemalynn Meanor, Senior Public Relations Manager, The Linux Foundation

Open Mainframe Project's mission is and will always be to serve as a focal point for the deployment and use of Linux and Open Source in a mainframe computing environment and increase collaboration across the mainframe community to develop shared resources. The only reason the project has been successful in doing this for the last five years is the open source community that welcomed us with open arms. Without the community, we wouldn't have been able to become an umbrella organization under the Linux Foundation like CNCF, Hyperledger or LF Edge. This year, we spent a lot of time promoting the community, their contributions to the project and highlighting various members and leaders.

For example, the Zowe community launched a Medium Blog this year that offers insight into all of the capabilities of the framework through in-depth tutorials, highlighting features or sharing compatible member products and services available in the ecosystem. Written by Zowe contributors for the community, there are more than 40 blogs from a variety of leaders from Open Mainframe Project member companies Broadcom, IBM and Rocket Software. Managed by the Open Mainframe Project and a team of technical editors, we are always looking for more writers. If you would like to write content for the Zowe Medium blog or the Open Mainframe Project website - join us!

In addition to hosting our own inaugural event this year, Open Mainframe Project was present at 19 other technology conferences and open source events including:

SHARE Ft. Worth (February 23-28)
 - 19 Zowe sessions
 - The Latest News to Exploit Zowe in Products or Your Enterprise (3-part webinar) - Watch the webinars

• Roy Boxwell, Software Engineering GmbH; Bruce Armstrong, IBM; Joe Winchester, IBM - Hursley Labs; Rose Sakach, Broadcom (Webinar 1)

• Bruce Armstrong, IBM; Joe Winchester, IBM - Hursley Labs; Dan Kelosky, Broadcom; Sean Grady, Rocket Software (Webinar 2)

• Michael DuBois, Broadcom; Peter Fandel, Rocket Software; Bruce Armstrong, IBM (Webinar 3)

SUSECON
(March 23-27)

• Creating a sustainable open source ecosystem for mainframe through the Open Mainframe Project" - John Mertic, the Linux Foundation - Watch the video

Open Source Summit North America
(June 29 - July 2)

• Open Mainframe Mini-Summit - Watch the video

• John Mertic, The Linux Foundation; Stacey Miller, SUSE; Sudharsana Srinivasan, IBM; Sujay Solomon, Broadcom; Yongkook(Alex) Kim, Vicom Infinity and Yvette A LaMarr, IBM

• "How to Grow Your Open Source Project and Become an Umbrella Project" - John Mertic, The Linux Foundation - Watch the video

• "How Open Mainframe Project's Zowe is Opening up the Mainframe. Who Says You Can't Teach Old Dogs New Tricks." - Joe Winchester, IBM - Watch the video

All Things Open (October 19-20)

• "Creating a sustainable open source ecosystem for mainframe through the Open Mainframe Project" - John Mertic - Watch the video

Open Source Summit Europe (October 26 - October 29)

• Open Mainframe Mini-Summit - Watch the video

• Len Santalucia, Vicom Infinity; Derek Britton, Micro Focus; Sudharsana Srinivasan, IBM; Michael DuBois, Broadcom; Kip Twitchell, IBM; Elizabeth Joseph, IBM; Lauren Valenti, Broadcom; Rick Perret, Broadcom; Jenn Francis, IBM; Sylva Bursikova, Broadcom; Rashmi Agrawal, Rocket Software and Open Mainframe Project 2020 Mentees

Open Source Strategy Forum (November 12-13)

• "Bridging Modern DevOps and the Mainframe" featuring John Mertic; Jenn Francis, IBM; Len Santalucia, Vicom

Infinity; and Samual Knutson, Compuware - Watch the video

With a captivated audience stuck at home, we also increased our digital content this year with focused webinars that aim to provide project updates to the community and introduction to new projects.

All 2020 Webinars can be found on the Open Mainframe Project Youtube Channel:

• Open Source on the Modern Mainframe, April 17

• Zowe Virtual Hackathon, May 27

• Zowe LTS, May 28

• Zowe Quarterly Update, October 14

• GenevaERS, November 18

• COBOL Training Course, December 16

In 2021, we will continue creating more digital content for the community and have invited members and all Open Mainframe Projects to host a webinar that will engage and educate.

"I AM A MAINFRAMER. WHAT'S YOUR SUPERPOWER?"

Chris Blum, Marketing Consultant, The Linux Foundation

The "I am a Mainframer" Podcast continues to be one of the most popular assets for the project. The series explores the careers of people in the mainframe ecosystem and showcases their diverse journey, personal perseverance and advice they would give to someone just starting out their academic or professional career. The talent and passion of each person that has spoken to host Steven Dickens of IBM has made this podcast a huge success. In addition to the Open Mainframe Project website, the podcast can now be found on Anchor, Apple Podcasts, Stitcher and Spotify!

January: Panel Discussion with Len Santalucia, Vicom Infinity; Todd Scofield, The University of Buffalo; Jay Desai, XtremeData

March: Vaughn Marshall, Broadcom

April: Shashank Motepalli, University of Toronto and former Open Mainframe Project Mentee

May: Sebastian Wind, DateEV eG

June: Eric Chevalier, Phoenix Software

July: Maggi Li, Precisely

August: Jessielaine Punongbayan, Broadcom

September: Ross Mauri, IBM

October: Dan Pavel Sinkovicz, University of Northampton and Open Mainframe Project Mentee

November: Robert Garrett, zResource

December: Rick Barlow, Velocity Software

"ANOTHER YEAR, A WHOLE OTHER SET OF POSSIBILITIES."

Harry Williams, Open Mainframe Project Governing Board Member

The hard work of the past 5 years in the Open Mainframe Project has set us up well for 2021. We are in the unique position of having revenue growth in 2020, streamlining our expenses, but at the same time being able to add more value to our hosted projects and the community as a whole.

The Governing Board set forward goals and objectives to take the Open Mainframe Project to the next level. Some of those highlights for 2021 include:

- The launch of the Open Mainframe Project Ambassador program, which will recognize and enable a select group of individuals within our community to be those evangelists for the umbrella, it's projects and technical efforts.
- Collaboration across other open source foundations, focusing on efforts where our project strengths align with other horizontal foundation efforts and create mutual value for both project and downstream vendors and end-users.
- Continual project growth, but also focusing on ensuring existing projects are being adopted downstream.
- Hosting our second Open Mainframe Summit in late 2021

We look forward to working with each and every one of you to realize this vision and to enable a sustainable open source ecosystem on mainframe. If you see an area that you would like to contribute to, please reach out to us. Efforts like this are bigger than any of us individually or any of our organizations alone - only a diverse set of persons, perspectives, and organizations can ensure open source on mainframe is alive and well for decades to come.

IN THE NEWS

Check out some of the articles that featured OMP, our projects and members this year:

- Open Mainframe Summit Celebrates Successful First Annual Event - TechChannel, October 26, 2020
- Bringing COBOL to the Modern World - Linux.com, October 1, 2020
- At the Intersection of Mainframe and Open Source, Linux Foundation's Open Mainframe Project Reports Record Growth - TechZone 360, September 16, 2020
- Mainframe Mag - Linux Format, Summer 2020

- Linux Foundation showcases the greater good of open source - Computer Weekly, August 19, 2020
- Z is for Zowe - the Open Path to Mainframe DevOps - DevOps.com, August 26, 2020
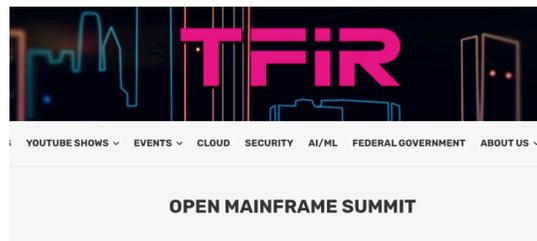
Z is for Zowe – the Open Path to Mainframe DevOps

- [John Mertic on the Open Source Renaissance](#) - zTalk Podcast, August 3, 2020
- [Open Mainframe Projec Pushes Zowe Platform into LTS](#) - DevOps.com, July 2, 2020
- [COVID-19 pandemic response puts mainframes back in spotlight](#) - SDTimes, May 4, 2020
- [Can't file for unemployment? Don't blame COBOL](#) - Wired, April 22, 2020
- [IBM, Open Mainframe Project launch initiative to help train COBOL coders](#) - ZDNet, April 10, 2020
- [Open Mainframe Update](#) - FLOSS Weekly Podcast, February 12, 2020
- [Open Mainframe Project](#) - IBM Developer Podcast, January 16, 2020
- [Open Mainframe Project continues to grow with launch of Polycephaly and new members](#) - Database Trends and Applications, January 13, 2020

All video recordings from the inaugural Open Mainframe Summit are available to watch on-demand on the [Open Mainframe Project Youtube Channel](#). The playlist can be found [here](#).

OPEN MAINFRAME SUMMIT

Other videos from the conference include interviews for [The Fourth Industrial Revolution](#) including:

- [What is Open Source Polycephaly?](#), September 23, 2020
- [Bringing Cloud Foundry KubeCF To Mainframe](#), September 20, 2020
- [Meet Feilong, An Open Source z/VM Cloud Connector Project](#), September 18, 2020
- [Mainframe Open Education and Mentorship](#), September 16, 2020
- [GenevaERS Goes Open Source](#), September 16, 2020
- [Should Modern Developers Care about Mainframe?](#), September 15, 2020
- [Women of Mainframe - Observability in Mainframe DevOps](#), September 14, 2020
- [VIVA: An Open Source Competitor to Siri & Alexa](#), September 14, 2020
- [Meet the 2020 Zowe Hackathon Winners](#), September 11, 2020
- [First Open Mainframe Summit](#), September 8, 2020