

# Message from the USENIX ATC '23 Program Co-Chairs

## Introduction

Welcome to the 2023 USENIX Annual Technical Conference (USENIX ATC '23). We are excited to be holding an in-person event with minimal visa issues requiring remote participation. Similar to last year, USENIX ATC '23 is co-located with OSDI. We very much look forward to meeting everyone in the systems community whether they attend USENIX ATC, OSDI, or both. The rest of this document provides some insights into the submission and selection process that culminated in 65 accepted works that will be presented at the conference.

## Submissions

As in previous years, USENIX ATC '23 solicited three types of papers. In addition to full length, 11-page research papers, authors could submit 5-page short research papers that describe complete and properly evaluated ideas using fewer pages. Finally, to align with the USENIX mission of bringing together researchers in academia and systems practitioners, we continued the practice of soliciting papers describing the design, implementation, analysis, and experience with real-world deployment of systems and networks in a deployed systems track. These “Deployed Systems” papers had different criteria for acceptance from research papers, not needing to present new ideas or results to be accepted, but needing to convey practical insights.

A submission to USENIX ATC '23 involved more than a single PDF file. On the HotCRP submission system, each submission also contained an artifact description that included further details about the experimental environment. Optionally, authors could include a textual description of changes from previous submissions to help in the case where reviewers may have seen prior iterations of the paper while on other PCs. Finally, if on the deployed systems track, authors were required to specify a justification for why the paper belonged in that track.

## Program Committee Selection Process

We assembled a program committee with many goals in mind: good coverage across diverse computer-systems topics, balance between academia and industry, a mix of veterans of prior USENIX ATC PCs with individuals in early stages of their professional careers, geographic diversity, and adherence to the USENIX diversity and inclusion principles. The assembled PC had 107 members from 19 countries, including 44% from North America, 33% from EMEA and 21% from APAC. 70% of the PC was from academia and 30% from industry, though some PC members from academia were also affiliated with industry. 55% of our PC were veteran PC members who had served USENIX ATC at least once in the past 4 years. Our PC had 26% female representation, which is higher than recent years (e.g., 18% for USENIX ATC '22). The main areas of expertise of PC members were Storage (24%), Distributed Systems (25%), Operating Systems (26%), Security (15%), Networking (12%), and Machine Learning (17%).

For the PC selection process, which was done well in advance of the submission deadline, we drew from a pool of experienced PC members who had served at least once in the prior 4 iterations of USENIX ATC, removing those who had served 4 times in a row and those who were concurrently serving for OSDI. In making our invitations, we prioritized several factors, including the following: reviewers flagged in HotCRP as producing good reviews for previous conferences; recommendations of researchers (usually early career) from invitees who were unable to serve; topic matches, trying to anticipate the need for Machine Learning expertise based on topic ratios from last year; and female representation, as it has been low in the USENIX ATC community.

During the review process, there were a few cases in which we needed expertise for a paper in which all reviewers identified low levels of expertise. For these, we solicited recommendations from the PC and invited external reviewers.

On January 9th, 2023, we held a synchronous online PC pre-review meeting to go over the unique aspects of USENIX ATC '23 submissions, and an overview of the duties and processes involving PC members, including bidding, reviewing rounds, online discussions, the author rebuttal, the PC meeting, and shepherding. Although attended by both veteran and new PC members, we hoped the meeting helped to welcome new PC members and provide opportunities for questions about the process. We held the meeting twice (7 hours apart) in an attempt to accommodate the various timezones of our international PC.

## Review Process

USENIX ATC '23 received 353 submissions across all tracks, which was 10% fewer than USENIX ATC '22. Of these, 22 (6%) were deployed systems papers and 19 (5%) were short papers. The most popular topics for submissions, as specified by

authors were: Clouds, clusters, data centers (29%); ML/AI (24%); Storage, file systems (23%); Parallel and Distributed Systems (22%); Operating Systems, Kernels (14%); and Networking (14%).

We adopted a double-blind review process to minimize bias with strict anonymity rules. Four papers were ultimately rejected due to including author names, directly identifying or sharing a name or title with an existing technical report, or directly linking to a github repository under the author's name or institution. We identified one of these cases prior to reviewing, but the others were detected during the reviewing process.

We rejected three other submissions without review due to violations of the formatting guidelines, two papers for exceeding the length limits, and one that was too short and did not contain sufficient detail. Of particular note was the misuse of appendices, including very long appendices and appendices that contain information that is integral to the paper.

In order to increase the quality and relevance of reviews, we ran a bidding process in which PC members had 8 days to bid on which papers they felt were in their competency/expertise area and for which they could provide knowledgeable reviews. PC members also updated their topic preferences in HotCRP, which along with bid values were used by the HotCRP algorithm to assign papers. We took care to ensure that PC members requesting a lighter workload were assigned fewer papers in each round. Especially in the second round, we manually adjusted reviewers in cases where reviewer confidence was low, based mainly on PC members' bid values.

USENIX ATC '23 had two double-blind rounds of reviews. The goal of the first round was to identify early rejections and also identify for which papers the round 1 reviewers lacked sufficient expertise. In the first round we assigned 3 reviewers per paper, resulting in 1044 reviews. The reviewers had 5 weeks to review papers and 2 weeks for asynchronous online discussion. We notified authors of papers rejected in round 1 ( $216/353 = 61\%$ ) early (sent on March 22nd) to give these authors more time to prepare a future submission.

In the second round, we assigned at least two additional reviewers to the 132 submissions not rejected in round 1, amounting to 284 additional reviews, bringing the total number of reviews for round 2 papers to 5. The reviewers had 3.5 weeks to review these additional papers followed by 3 days of asynchronous online discussion to identify the most important questions for authors to respond to. Authors had 3 days to write a recommended 500 word response with a limit of 1000 words. Almost all authors wrote responses within this range. The reviewers continued the asynchronous online discussion for 1.5 weeks, converging to pre-accept, pre-reject, and pc-discussion decisions on papers. 48 papers were pre-accepted, leaving more discussion time for controversial papers at the synchronous virtual PC meeting. 37 papers were selected for discussion at the PC meeting, of which ( $22/37 = 59\%$ ) of papers were accepted.

We held a two-day synchronous virtual PC meeting with the goals of providing a high-bandwidth channel to resolve discussions, exposing all PC reviewers to a broader set of papers to level-set on quality, raising broader issues that may span multiple submissions and ultimately selecting the final program. We used Zoom, managing conflicts with breakout rooms and HotCRP to manage the discussion order. To manage timezones, we split the paper discussions into 2-hour blocks based on a Doodle poll of timezone availability for the specific reviewers on each paper. PC members were encouraged to attend all sessions regardless of whether one of their papers was being discussed. While it remains a challenge to have full PC participation for the entire meeting due to the wide range of timezones, we found the discussions to be lively and effective.

The PC selected 65 papers for an 18% acceptance rate. 11 were deployed systems papers, 3 were short, and the other 51 were full length research papers. Acceptance was based on the quality of the submissions; in-person conference constraints had no bearing on our decisions. After selecting the program, the program chairs selected two best papers based on nominations from the PC.

## Artifact Evaluation Process

USENIX ATC '23 continued to run a joint artifact evaluation process with OSDI, led this year by Jianyu Jiang, Nathan Rutherford, and Cesar A. Stuardo. The artifact evaluation committee chairs assembled a committee consisting of 106 members. The authors of all accepted papers were invited to submit an artifact for an evaluation. 41 out of the 65 USENIX ATC papers (63%) did so. 98% of artifacts received an "Available" badge, 85% received a "Functional" badge, and 63% received a "Reproduced" badge. 61% of papers received all three badges (some artifacts were reproduced, but are not available).

Daniel Porto, researcher at INESC-ID in Lisbon, Portugal, passed away on April 29, 2023. He was a very talented and dedicated researcher, and a recognized expert in the areas of distributed systems and Byzantine consensus. His research led to several impactful publications in venues like EuroSys, OSDI, or DSN, and he served with a sense of community in several committees including the 2023 USENIX ATC/OSDI artifact evaluation committee. As a human being, Daniel will be remembered as an extraordinary person with an endless desire to help others. He touched the lives of many with his incredible generosity and kindness.

## **Acknowledgements**

More than 200 people have contributed to the organization of the USENIX ATC '23, most of them in a voluntary capacity. We would like to thank each and every one of them. We are tremendously grateful to the program committee members for a job extremely well done, and for their personal sacrifices. We thank the Artifact Evaluation committee and the Artifact Evaluation Committee Chairs for their work and contribution, which improves our community and enables future research. Last, we thank the USENIX organization, the USENIX ATC steering committee and OSDI '23 co-chairs. The amount of work and preparation that goes into organizing a conference is immense, and we were astounded by the help and support provided by everyone involved.

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