



# DNS-OARC

Domain Name System Operations Analysis and Research Center

## Members Report, 2022 Annual General Meeting, October 2022

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Dear OARC Members,

Fall has come around very quickly, and in this “back-to-normal” year, OARC’s 2022 Annual General Meeting is imminent. We have two important items on the AGM agenda, Board Elections, and a proposed increased to Membership fees.

Also coming very soon is OARC39, our first workshop on European soil in 4 years, hosted by OARC Participants **RNIDS** and **SOX** in their home city of Belgrade, Serbia. OARC38 is now successfully behind us, and as well as a significant return to in-person participation, we made use of our time in Philadelphia for some productive internal meetings.

We have made progress on development of our CheckMy DNS testing tool, a range of improvements to our infrastructure, and been awarded a grant to develop the AS112 project that OARC hosts.

I’m pleased to welcome several new arrivals, **DNSFilter** and **Whalebone** as OARC’s latest Members, and Rebecca Petro as the latest addition to the OARC Team.

We look forward to seeing many of you online and in-person over this coming busy month.

## 1. 2022 Annual General Meeting and Board Elections

The [2022 Annual General Meeting](#) will take place on Tuesday 11th October at 15:00 UTC, as a fully-online event using Zoom, separate from the [OARC39](#) workshop

You can find information about the AGM at the meeting site:

<https://indico.dns-oarc.net/event/45/>

and need to have registered for it at:

<https://oarc-agm2022.eventbrite.com/>

no later than 23:59 PDT on Friday 7th October.

There are 3 formal business resolutions at this year's AGM, to approve:

1. the [2021 Audited Financial Statements](#)
2. the [2021 AGM Minutes](#)
3. an increase to [OARC Membership dues](#)

For this year's AGM, we'll be testing out Mattermost polls in a dedicated voting channel to cast and count resolution votes. Q&A via both [Mattermost chat](#) and Zoom Audio/Video will be supported.

For any Member unable to have a representative attend the AGM live, [proxy forms](#) to vote on the resolutions are available, which must be submitted to [<admin@dns-oarc.net>](mailto:admin@dns-oarc.net) no later than 23:59 PDT on Monday 10th October.

Voting in the Board elections will use [opavote.com](https://opavote.com), and takes place immediately after the AGM is finished, between 17:00 UTC Tue Oct 11th until 16:59 UTC Wed Oct 12<sup>th</sup>.

The 5 candidates for two 2-year positions are:

- |                   |                   |
|-------------------|-------------------|
| • Joe Abley       | <b>Cloudflare</b> |
| • Nico Cartron    | <b>F5</b>         |
| • Shumon Huque    | <b>Salesforce</b> |
| • Frederico Neves | <b>NIC.br</b>     |
| • Ralf Weber      | <b>Akamai</b>     |

and you can find their platforms here:

<https://www.dns-oarc.net/oarc/agm-2022/elections>

You do not need to attend the AGM or send a proxy to vote in the Board elections.

You should by now have designated who from your organization will be voting for you in the Elections and/or AGM, and they should receive confirmation of voting credentials and instructions in advance of the AGM. Please contact [<admin@dns-oarc.net>](mailto:admin@dns-oarc.net) if you do not receive these, have questions, or need help at any point.

## **2.OARC39 Workshop**

[OARC 39](#) will take place on Saturday/Sunday October 22nd/23rd 2022 both online, and in-person at the Golden Tulip Zira in Belgrade, Serbia, immediately before the [RIPE85](#) meeting nearby. We are pleased to resume our pre-pandemic practice of having a joint annual event with **CENTR-Tech**. Registrations are open for both in-person and remote attendance. Full meeting information, including [agenda](#) and [registration](#) are available at:

<https://www.dns-oarc.net/oarc39>

Registration is discounted for OARC Members, and points of contact within the OARC Portal should have received their discount codes - please contact <[admin@dns-oarc.net](mailto:admin@dns-oarc.net)> ASAP if you did not.

Covid-19 pandemic safety measures remain in place, and we require attendees to have been fully vaccinated no later than October 7<sup>th</sup> 2022 to attend at the venue. We are planning fully interactive remote participation via a Zoom webinar and Mattermost chat for anyone who is unable to attend in-person.

We currently have [15 presentations](#) scheduled, with some time set aside for late-breaking lightning talks. Attendance is currently 50 in-person and 27 remotely, and registration remains open until the workshop.

In addition to the OARC39 workshop, many of the OARC Team will also be present in Belgrade during the co-located RIPE85 meeting.

Our thanks to **RNIDS** for hosting the workshop and local support, and **SOX** for providing connectivity for OARC39.

## **3. 2021-22 Financial Position**

2021 was another strong year for OARC financially, and the published [Audited Financial Statements](#) show another year of best practices and clean health. Revenues were somewhat lower at \$895k than the just over \$1M we achieved in 2020, due to zero (compared to one in 2020) in-person workshops, and lower development work funding in 2021 while we completed the development commitments taken on in 2020. Expenses without travel or direct workshop costs during 2021 were however much lower, and we were able to build further upon the reserve growth from 2020, an operating surplus of some \$168k, building our cash reserves at year-end to \$819k, potentially enough for a year of unfunded operations.

While OARC's [reserves policy](#) prudently allows us to hold such operating cash, the Board made the decision that for the 2022 budget we would invest some of these reserves in growing the organization through additional hires, and run a deficit for 2022. At present the projected end-2022 deficit is some \$111k, lower than that projected in the original 2022 budget.

We are however seeing some tightening of the industry's macro-economic situation, with new paying Member signs-up only slightly better than replacement of departing paying Members, and the effort and time-cycle of membership renewals increasing through the year. Attendance at in-person workshops for most industry events seems to be around half of pre-pandemic levels. It seem prudent to plan conservatively for tougher times ahead.

#### **4. Proposed 2023 Membership Fee Increase**

We are also already experiencing directly the impact of increased inflation rates. Our biggest expenses are contractor hours, direct and travel costs for workshops, hardware depreciation, and data center hosting. Given the highly competitive state of the tech hiring market, the Board made the decision early in 2022 to increase the hourly rate of our contractors for the first time in 3 years by around 8%, reflected in the 2022 budget.

It also became clear mid-2022 with the return to in-person events that travel expenses were becoming significantly higher, and to cover all our commitments for the year, it was approved in the Q3 budget update to increase the travel budget by some 25% from \$80k to \$100k.

This leaves hosting and connectivity as our next biggest direct expense, some \$50k over the course of the year, with billing based primarily on power consumption rather than space or bandwidth. While we have not yet seen an increase in our N.America-based hosting expenses, the effects of globally higher energy costs are already been seen in the hosting industry in Europe, and it is our belief it is only a matter of time over the winter that these increases will knock-on through to our hosting providers.

It is some 3 years (1st January 2020) since OARC has increased its Membership dues, and in-line with our established policy of 3-yearly reviews, an analysis of prevailing inflation rates in the US and EU (where most of our costs are based) has been conducted to create a proposal for increasing the Membership dues. This shows that compounded 3-year inflation in the US has run at 15%, and in the EU 12%, with most of that happening in the past year (US and EU ~8% in 2022 YTD).

The proposal before the AGM is thus to increase dues for 2023 by approximately 10%:

Membership Category	Current Annual Fee	New Annual Fee
Blue	\$1,100	\$1,250
Bronze	\$6,500	\$7,200
Silver	\$10,000	\$11,000
Gold	\$15,000	\$16,500
Platinum	\$25,000	\$27,500
Diamond	\$50,000	\$50,000

There are two slight variations to this you may notice. Recent analysis of the consumption of benefits by different membership categories makes it clear that the higher membership tiers are cross-subsidizing the lower tiers to some extent. The Board therefore proposes that the Blue increase should be slightly higher than 10%; and that the highest tier, Diamond, should not be increased at this point, out of concern that sign-off for a subscription amount above the \$50k threshold may encounter approval difficulties.

Approval of the above increases should allow OARC to continue to operate at its current activity level on a near nonprofit basis for the coming year, and we seek Member endorsement and approval of this at the AGM.

The macro-economic situation remains volatile, with no clear forecasts of when inflation rates may return to more modest levels. We are therefore making the policy change of reviewing OARC's fee levels on an annual basis for the foreseeable future.

## **5. OARC Membership 2021-22**

Since the 2021 AGM in October 2022, we have been able to welcome the following new OARC Members and Supporters

- **Cloudflare** (Gold)
- **DNSFilter** (Gold)
- **Whalebone** (Bronze)
- **Bern University of Applied Sciences** (Supporter)

And the following OARC Members have upgraded:

- **Salesforce** (Gold to Platinum)
- **ISC** (Silver to Gold)
- **NSRC** (Supporter to Blue)

We have lost 2 Members, **Zvelo** (Bronze), and **PANDI** (Blue), and some 8 Supporters. There are currently 20 Supporters signed up, though we expect several more to have dropped off by end-2022, mainly due to more rigorous policing of whether they are meeting their in-kind contribution requirements.

If you could spread the word about the benefits of OARC Membership. You may find our [Brochure](#) and [Briefing](#) documents useful for this. See also our referral discounts, where existing Members who refer a new party to OARC who becomes a paying Member can receive a 10% discount. Supporters who refer a new paying Member can receive an upgrade to Blue Membership.

Please contact Steve via [<admin@dns-oarc.net>](mailto:admin@dns-oarc.net) if you have any questions about your membership and our services.

## **6. Software Development**

### **6.1 Workshop Registration**

At the 2022 staff all-hands just before OARC38 we decided to put some effort into making the workshop registration process smoother, especially with regards to the discount codes.

So over the next couple of months Jerry will be working on this with various other staff and the goal is to make it as easy as possible both for us and you, our members, to manage discount codes and sign-up for our workshops.

The first things will be to try and document what we currently do, for example we generally have over 50 different ticket types in Eventbrite, so that really needs to be simplified. Then we can focus on how we want things and make plan(s) on how to get there.

We aim to have decided how to proceed before the December holidays this year and then do an internal test run in February/March after OARC40. If everything works out the new process will be used for OARC41. If you're interested in helping with testing of this new registration process please drop an email to [<jerry@dns-oarc.net>](mailto:jerry@dns-oarc.net).

### **6.2 Check My DNS**

Work continues on the new UIs as they are the based for most of the other work planned for Check My DNS.

<https://tcmdns.dev.dns-oarc.net/slim/>  
<https://tcmdns.dev.dns-oarc.net/console/>

Right now the two UIs in development can be accessed individually but that will be changed to prefer slim for mobile/small devices and console for everything else, unless you've configured your preference of course.

Features that will come with the new UIs are:

- Customize which checks, or sets of checks, to run
- Browser local settings
- History of previous checks, browser local and configurable
- Download check results and/or share via public text dump services

We hope to have this completed in early December.

### **6.3 Releases**

Not that many releases since it has only been a couple of months since the last software report at OARC38.

- *dnscap* v2.1.0: New option to save a PID file if running and daemon and new metrics for Root Server Scaling Measurement (RSSM) plugin

A list of all our software is here:

<https://www.dns-oarc.net/oarc/software>

Finally, OARC can develop new tools, or enhance features of existing tools, via a custom for-hire development contract. OARC Members will receive priority for such work, and a discounted rate depending on membership tier.

## 7. Systems Engineering

### 7.1 Ceph Data Store

In order to take this long-standing project to completion, Mike has been primarily working on Ceph cluster setup within our Fremont network for the past few months. The present cluster consists of two management nodes, two monitoring nodes, and three storage nodes (~100TB/each). We're currently configuring these storage nodes in order to create CephFS mounts (similar to NFS) for data access.

Next steps include:

- Test access.
- Start copying data. This will be a months long process.
- Adding additional Ceph nodes:
  - Two Meta-data nodes
  - Additional Storage nodes: We have hardware for 6 more nodes which can be added as data gets transferred from the current data storage system.

### 7.2 Data Centers and Network

Since the last AGM, we have relocated the Ottawa data center to a new co-location facility. Our generous host, **CIRA**, was moving their site and we moved along with them. We took the opportunity to do some cleanup of that site's local network, and also obtained our own transit, so we are no longer piggy-backing CIRA's network there.

We also acquired a pair of new routers: one each for Fremont and Ottawa. They are both currently at the Fremont data center. We plan on installing the Fremont router soon, and will be shipping the other to Ottawa to replace the hardware there.

The old router we have in Ottawa is not capable of handling a BGP feed due to memory limitations, but the replacement will enable us to turn up BGP there, as well as join the local IXP. In addition to alleviating some ongoing, intermittent IPv6 issues, the new router in Fremont will enable us to finally turn up secondary transit, and join the second IXP at that site.

### 7.3 Hardware Replacement

We are still suffering some operational pain from other old hardware in our network. OARC has a number of systems from before the organization had the capital to do proactive replacement of servers after a reasonable number of years of service. We are making progress on replacement of those servers, however.

Over the past couple of years we have been migrating services off of the two oldest "workhorse" servers to new systems. In the past couple of quarters we have obtained the last hardware we expect to need to migrate the remaining applications off of those servers, which is now mostly limited to mail and other internal applications, such as our CRM. We expect the new mail server to be in production in the next couple of weeks, and most of the other applications to be migrated by the end of the year. The last few sticky bits may take us into Q1 before we can completely decommission those old servers.

There are still a short list of other servers that await replacement, such as the aging analysis systems (one of which is currently down due to failed disks) which we will get to over the next year or two, depending on budget.

We are developing a plan to budget for regular replacement of servers on more industry-standard time scales, and so reduce the frequency that we are caught out by sudden failures of systems.

## 7.4 AS112

The [AS112](#) Project has been around for many years, providing a community-operated anycast network of DNS servers to sink queries for private names that should never hit the root or IN-ADDR.ARPA name servers. OARC has been the steward of the number resources, domain name, web site, and mailing list since at least 2009.

We recently received a \$7,500 Community Grant from [ARIN](#) toward a redesign of the project's web site. Among other things, the project will update the site to allow it to be viewed reasonably from mobile devices, improve the structure so that it can be accessed with assistive devices, and re-work the operator listing to be based on structured data and API calls to the PeeringDB database, rather than the manually edited HTML table that currently exists. This should all help to make the project easier to manage, and easier to participate in. We expect the new site to be live before the end of the year.

You can read about the project goals and other information about the project on ARIN's community grant programme page, at:

[https://www.arin.net/about/community\\_grants/recipients/#as112-project-website-improvements](https://www.arin.net/about/community_grants/recipients/#as112-project-website-improvements)

## 7.5 DITL Management

Another development project we're doing is to update how we manage DITL data and its contributors. The current process for managing contributors is highly manual, involving manually creating and updating unix users, ssh keys, and a network of symlinks for all contributors on multiple servers. Likewise, generation of metadata about our DITL collections is complex and involves a lot of manual steps.

We're writing a new collection of tools to help manage this in a more automated fashion, allowing us to centrally control contributor accounts and details, have fewer manual steps to generate coverage graphs and other metadata about each DITL collection, and provide feedback to DITL contributors during an event about what data we have successfully received.

We hope this new tool set will be in production use before the beginning of the 2023 DITL collection next spring.

## **8. New OARC Team Member**

We are pleased to welcome [Rebecca Petro](#) as the latest addition to the OARC Team of staff contractors, in the position of Administrative Co-ordinator. She comes to us after a career break during which she added technical skills to her extensive experience in administrative roles. Rebecca (at 0.6 FTE) will be on the same remote-working basis as the rest of the team, but like Keith is based in Indianapolis and attached to our HQ office there.

Rebecca's role will take on various administrative functions, and you may expect to hear from her when it comes to membership renewals. Particular projects including cleaning up, purging and digitizing our archive of legacy paper records, and migrating many tasks Keith has historically performed, an important step in the longer-term leadership succession plan.



## 9. Future workshops

OARC40 is planned to be a 2-day hybrid workshop, taking place on the 16<sup>th</sup> and 17<sup>th</sup> February 2023, co-located with the [NANOG87](#) meeting in Atlanta, Georgia, USA. The Call for Presentations will open shortly after OARC39, and registration will open during December.

Opportunities remain open for sponsorship and patronage of all OARC's events, please see:

<https://www.dns-oarc.net/workshop/patronage-sponsorship>

and contact Denesh via [<sponsor@dns-oarc.net>](mailto:sponsor@dns-oarc.net) for further information.

The pace of workshops, combined with the additional challenges of running them in a hybrid format and extra planning around various externalities arising from our choice of co-located events, has proved quite demanding and costly during 2022. We are therefore considering running just 2 in person/hybrid workshops during 2023, with a possible additional short online-only event. This will allow us some breathing space to make headway with a number of projects, including the workshop platform integration enhancements and succession planning. We will then review whether or not to return to 3 full workshops/year for 2024. It is therefore more likely than OARC41 will take place in Fall/Autumn 2023 than Spring 2023, watch out for further information.

Our thanks in particular to **Verisign** for their Patronage of our workshops for 2022.

Keith Mitchell  
OARC President

October 2022