

TechOps Services Ecosystem Actor's mandate is to support critical Maker protocol infrastructure, maintaining its stability and operability with a 24/7/365 schedule

. We continue to run infrastructure behind MakerDAO, services and monitoring to ensure ecosystem stability and health, as well as providing IT support for all MakerDAO stakeholders. The team is based in different regions to ensure global coverage for alerts and maintenance support.

#### Incidents and alerts statistics

Here are the statistics for incidents in Q1:

1. January - 194 incidents
2. February - 384 incidents
3. March - 436 incidents

TOTAL - 1014 incidents in Q1

#### Important Note:

"Incident" is a term used by PagerDuty - the tool that we use for integrating all running services into one alerting system. Incident in reality means an alert that TechOps receive and has to investigate. It in no way means that something was not working.

Visual representation of the Q1 incident statistics:

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Average number of incidents received per day (including weekends) is 11.

Below, you can also see how many notifications the team is receiving. We're a globally distributed team, but some notifications are still sent outside business hours if they meet a high priority rating. Thanks to our geographic advantage and careful planning, it is as if our team never sleeps.

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#### Note:

Graph represents number of times on-call responders were interrupted. Includes calls, SMS, or push notifications. Notifications from these channels are considered a single interruption until no notification is sent for at least 60 seconds.

End of March spike is due to refactoring work for monitoring functions that we've been doing that required adjustment and multiple iterations to fine tune it.

Below you can see that there were 4 critical incidents that required being escalated to people outside the usual time zone schedule. Compared to the previous quarter when we had 12 incidents of such type, it is a significant decrease.

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The mean time to acknowledge an incident is 20 minutes and to resolve it is a little over 3 hours. Compared to the previous period, on average it took more time to acknowledge the incidents. The reason is the bigger amount incidents received during the quarter and bigger amount of P3 (priority 3) incidents that do not require immediate attention.

Medium time to resolve an incident on the contrary was twice lower than last quarter and is at 3 hours 34 minutes. That is a good sign.

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We monitor 20 different services

and have multiple integrations that are linked to a common monitoring system. These services are:

1. AWS infrastructure
2. Risk Parameters
3. Blockchain Nodes
4. Emergency Shutdown Module
5. Keepers
6. CloudWatch
7. Kubernetes clusters
8. GuardDuty
9. RDS
10. Wallet Transactions
11. Automated monitoring tests

and others. Since last time it increased by one new services that we started monitoring - it's MakerDAO DNS provider.

Due to security concerns, we are not disclosing the full list or more detailed information on this.

#### Internal Community Tickets

We have an open channel for MakerDAO Community to open requests for TechOps team. Feel free to access #techops-requests

channel and open tickets following specific formatting rules. In Q1 we received:

- 22 tickets in January
- 14 tickets in February
- 10 tickets in March

Total is 46 tickets

, which is almost twice the amount of tickets requested in the previous quarter. We are super happy to help the MakerDAO Community with their needs.

Below, I will list the work split by categories and specific task areas that we've been working on in Q1.

#### Blockchain Keepers

- Audited all keepers and protocol monitors, making several improvements and creating a plan of the future improvements and updates.
- Made smart contracts keepers work with the new Tenderly deployment.
- Made an allocator- keeper for monitoring a multiple-functions contract.
- Created VaultMinter Allocator keeper.
- Upgraded and improved allocator-keeper, and its monitoring...
- Fixed allocator-keeper logging.
- Decommissioned Teleport Monitor and Keeper.
- Poker keeper seemed to be estimating more ETH per poke, so we made major changes that should save MakerDAO gas costs.

- Updated price collector.
- Fixed poker keeper tests.

## Infrastructure and Monitoring

- Improved the resilience of the Ingress controller on our Kubernetes clusters.
- Migrated Maker Frontends from the US to a different region, we already [revealed some of the details here](#)
- Cleaned up Terraform Cloud to save costs.
- Updated our own Terraform modules to work with the latest versions of the providers we use, and added some new features to them as well.
- Improved several GitHub CI/CD workflows.
- Created a metrics monitor module for our Kubernetes clusters.
- Upgraded and improved maker-keeper-watcher Lambda
- Set up monitoring for the settings of our Terraform Cloud Workspaces, which we integrated with Discord [You can read about it in a separate blog post.](#)
- Whitelisted in the monitoring suite all the Spells that were put to voting.
- Decommissioned legacy Source Cred instance.
- Provisioned a new VPN solution in Maker's account.
- Increased the disk space of several nodes such as validators, feeds, etc.
- Worked on OSM quorum monitoring.
- Improved Grafana monitoring to be more resilient.
- Improved liquidation monitor.
- Audited all of our IPv4 address usage and removed all that we could to save costs.
- Worked on Endgame-related apps.
- Responded to several alerts regarding Pods in failed states.
- Responded to several Oracle quorum alerts.
- Worked on several Medianizers price alerts.
- Fix CI/CD issues with the spells-mainnet GitHub repo.
- Turned off chainlog-staging until next steps are known
- Made improvements to the scheduling agent and the disk monitoring of our Kubernetes clusters.

## Blockchain Nodes

- Deployed ETH nodes in Kubernetes.
- Updated Mainnet, Sepolia and Holesky ETH nodes to be ready for Dencun.
- Worked on several node alarms that we received throughout the quarter.
- Set the right priority for node alerts.
- Decommissioned Optimism and Arbitrum nodes due to lack of use, as well as the Goerli ones due to its deprecation.
- Migrated some more nodes to our Kubernetes clusters.
- Deployed an RPC Load Balancer for our migrated blockchain nodes.
- Updated Erigon and Prysm nodes.

## Forum / MIPs Portal / Blog / other frontends

- Fixed infrastructure issues with the MIP website.
- Migrated MIP website to Maker's infrastructure. [Some details shared here.](#)
- Fixed a domain error with the marketing website caused by the third-party provider used for its deployments.
- Fully automated testing suite and flows created for Endgame-related apps.
- Decommissioned Maker's staging blog.
- Updated Maker's blog database engine to the latest version.
- Changed a group role name on the Forum.
- Improvements made to Maker's blog alerts.
- Updated links on [makerdao.com](https://makerdao.com) and fixed redirects.
- Modified DNS management for the new frontend app.

#### GitHub

- Managed permissions and access rights to various repositories and features.
- Discussed and applied branch protection rules for repositories, creating a plan for future improvements and general rules.

#### Discord

- Worked on various permissions and access requests.
- Repaired Matrix Bridge to Discord used by AVCs and other community members.
- Adjusted and improved Discord anti-spam settings.

#### Other tasks

- Improved our internal documentation related to the apps and services we've deployed for MakerDAO.
- Whitelisted users for poll submission.
- SecOps report for PagerDuty tool.
- Reduced infrastructure costs.
- Reviewed Immunefi reports.

Please let me know if there are questions related to the work we did. For other information, we have our own Discord server that you can join and ask questions.

Thank you for taking the time to read our update!

-Dumitru and the TechOps Services Ecosystem Actor Team

[techops.services](https://techops.services)

### **[TechOps Services](#)**

Custom Web3 Infrastructure with 24/7 Support. Globally distributed team of DevOps Engineers providing Technical Support services for Web3 and Blockchain projects.