DEVOPS STATE REPORT TURKEY

2020 / 2021

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DEVOPS STATE REPORT TURKEY

CONTENT

I FOREWORD

We are thrilled to announce that DevOps State Report Turkey 2020 - 2021 is now available. The report contributes to DevOps success in the IT industry through market research and analysis.

This year, DevOps State Report Turkey research has reached hundreds of IT professionals from every seniority level nearly doubling the number of respondents compared to last year. Not only respondents increased, but also the number of questions asked. Report has brand new questions and more diverse choices from now on. We think such a change helps us to better understand the current status and maturity of the industry in terms of DevOps.

Another shift is in the driving system of the research. In order to prepare and publish an independent report, we invited industries' leading professionals to contribute by forming DevOps State Report Strategy Committee. Committee members contributed significantly bringing their experience and wisdom from very beginning to the end.

We also want to share some anonymous insights that will help readers to walk in others' shoes. You will read several through the report.

Last but not least, we would like to thank all our respondents, committee members and supporters who have spared time to answer and complete the survey.

Continium Enterprise DevOps Services

EXECUTIVE
SUMMARY

In the last few years we observe a clear progress in the industry in terms of DevOps. It is inevitably the biggest catalyst since the agile manifesto declared nearly two decades ago. DevOps has proved that it is not another hype, but a real game changer. People now are aware that DevOps is not a software or tool, but a combination of cultural and engineering change. There is no doubt that its benefits are effective equally to all organizations, regardless of their industry vertical. Majority of the organizations take steps proportionally to their risk averseness.

Certainly there is a long way ahead for companies of all sizes in the DevOps journey. Even tech unicorns leading the industry have roadmaps to improve their way of benefiting DevOps. It is important to realize it is not easy but extremely promising. Starting transformation is vital, and there is not time to lose.

There is lots of information inside the report regarding current DevOps maturity of the market. Mostly monitored through some metrics or practices relatively easy to measure. Cycle time, lead time, commit frequency, CI/CD penetration, containerization are just a few of those metrics or practices.

While reading the report, please keep in mind that the results might be disinformative through misinterpretation. We strongly advise to read the analyses of the results and assess the report as a whole.
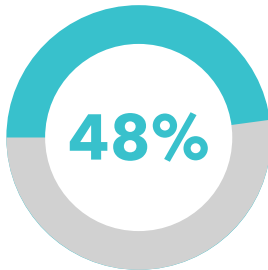
Enjoy reading!

QUESTIONS & ANALYSIS

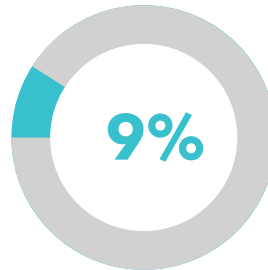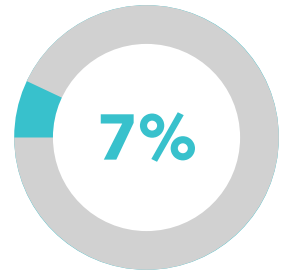continium

What is Your Role in the Organization?

48% — Engineer or Specialist

15% — Agile Coach & Scrum Master

9% — Team Leader

7% — Consultant
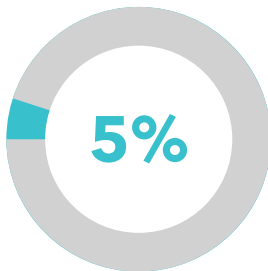
5% — C-Suite Executive
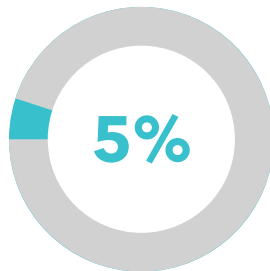
5% — Senior Management
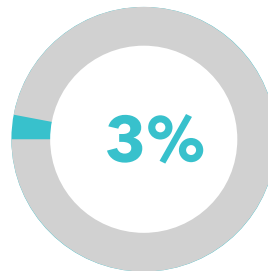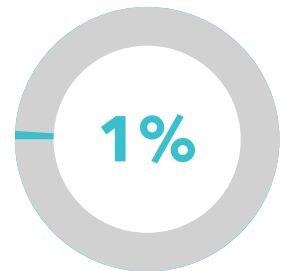
3% — Mid Management

1% — Intern
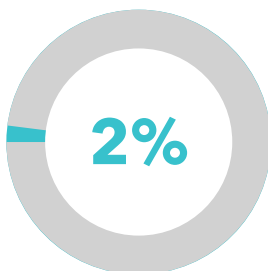
2% — Other

This year, DevOps State Report research has penetrated extensive levels of corporates in terms of speciality and grade. Besides technical staff, C-suite executives and senior management members represented fairly in the study considering ratios in the industry.

Engineer/Specialist participants again lead the research just like last year. As one of the new roles, we decided to add the Agile Coach/Scrum Master option in order to observe correlation between Agile and DevOps transformations. So, correlation is crystal clear. It took the second position as a title among the participants.

Which Industry is Your Organization in?

27%
Financial Services

17%
Telecommunication

13%
Retail / Consumer / E-Commerce

7%
Insurance

5%
Manufacturing

3%
Education

3%
Energy

3%
Non-profit

2%
Government

1%
Heathcare / Pharmaceuticals

13%
Other
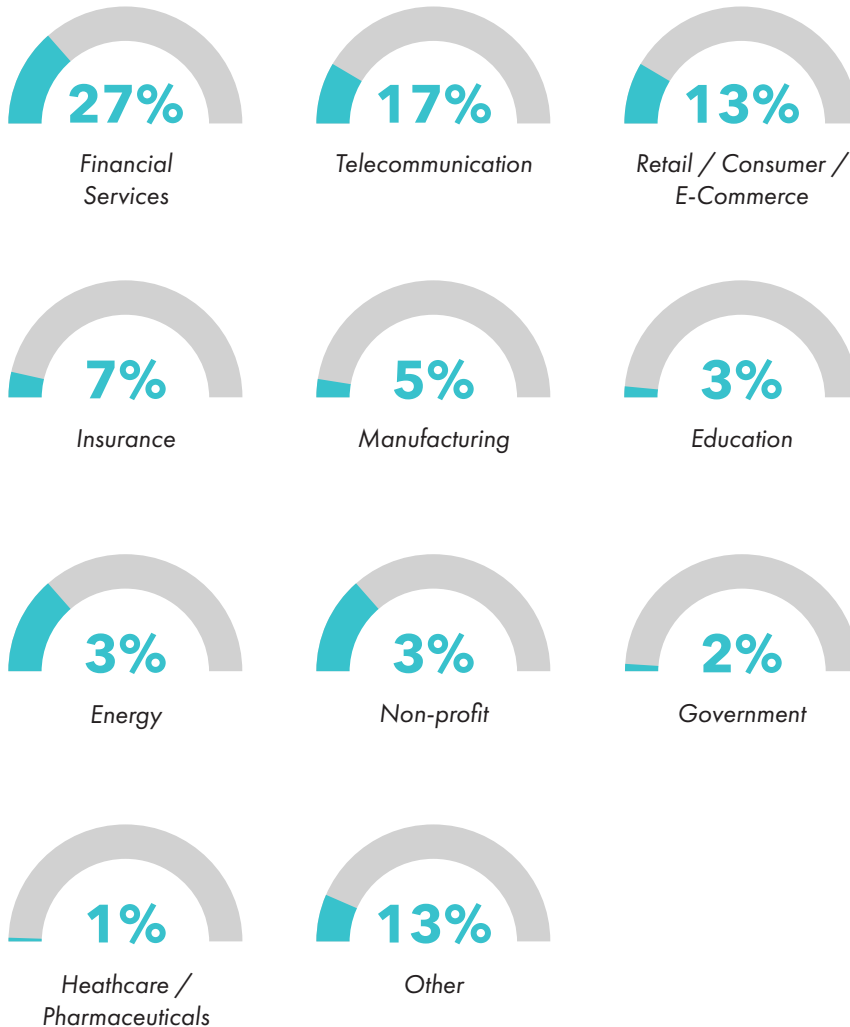
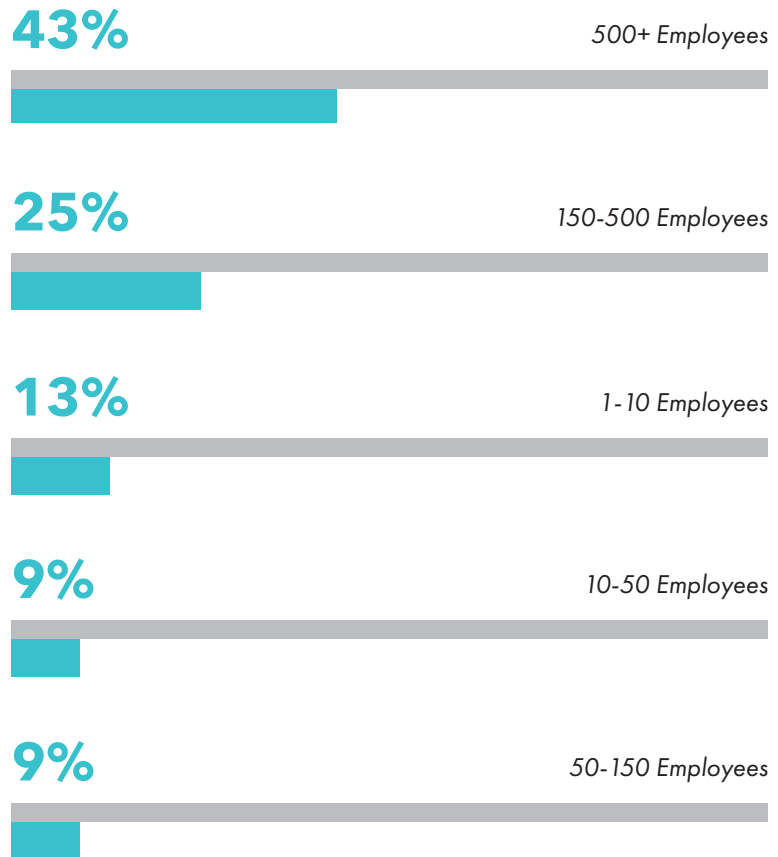DevOps State Report Turkey has again accomplished to reach various industries as aimed. Similar to last year, most of the DevOps State Report research respondents work in financial services. Besides, the first three industries position similarly compared to last year, except transportation. Telecommunication share is the same in terms of ratio, but an increase for retail/e-commerce industry is observed.

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What is the Size of Your IT Organization?
(All Staff Including Outsources and Consultants)

43%   *500+ Employees*

25%   *150-500 Employees*

13%   *1-10 Employees*

9%   *10-50 Employees*

9%   *50-150 Employees*

Even though this is a brand new demographic question of this years' DevOps State Report research, results tell us a lot. Majority of the respondents work in big or medium size enterprises, which demonstrates an important angle of view.

According to general belief, DevOps is considered much applicable and popular among small size organizations. However, the DevOps State Report shows a clear distribution of enterprises in terms of size, revealing that at least the interest in DevOps is exactly the opposite of what is generally assumed.

What Department Do You Work In?

39%
DevOps
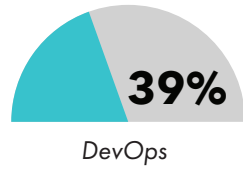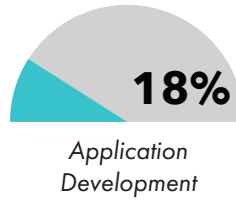
18%
Application Development
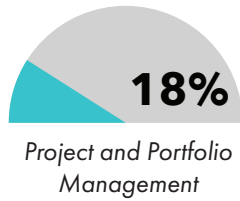
18%
Project and Portfolio Management

9%
Quality Assurance & Test Management
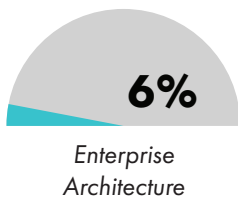
6%
Enterprise Architecture

2%
IT Operations
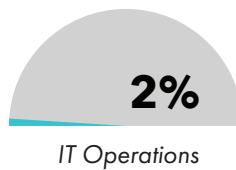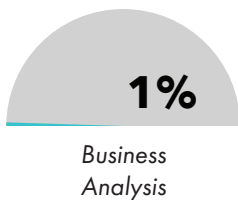
1%
Business Analysis
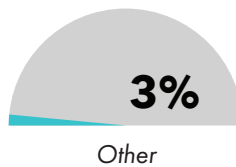
3%
Other

Research participants who work in DevOps teams have increased significantly compared to last years' ratio of 17.4%. Even if it is only a single metric, it might be a signal for transformational DevOps attempts in the industry. In addition to that, representation of diverse departments proves integrity of the research and indicates increased DevOps awareness and excitement among IT professionals of Turkey.

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Does DevOps Mean Cultural Change to You?

0	1	2	3	4	5	6	7	8	9	10
1%	2%	1%	5%	1%	5%	3%	15%	19%	13%	30%

Analysis of the Current Situation

In parallel to the survey respondents' answers that indicate the tendency of considering DevOps more as Engineering change, the same tendency towards the perception of DevOps more as a cultural change is also observed. This means that different perspectives of DevOps are now converging into a single concept.

Future Predictions

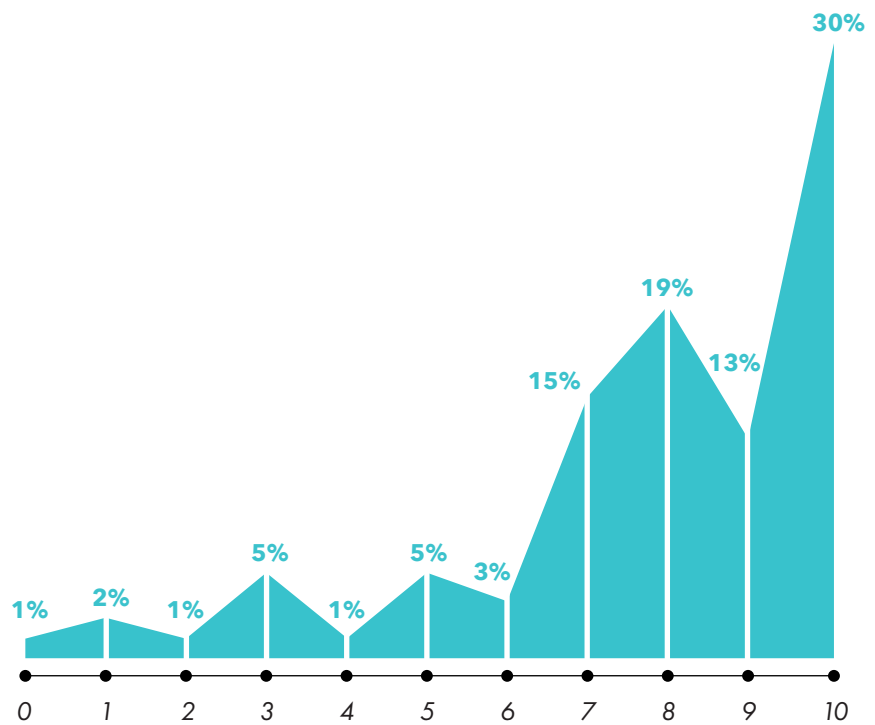As in calculus, since we observe the convergence of totally different concepts which are integral and derivative, we will observe a similar convergence and even the acceleration of the convergence of DevOps as an Engineering Change and a Cultural Change in near future. This means that a clearer view of DevOps will be in every one's mind.

INDUSTRY
INSIGHTS

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We have seventy-one squads and twenty-seven of them are applying CI/CD and DevOps practices. The transformation is hard in sense that people forget to do what they need to until it becomes a habit. As time goes by, it is getting better.

A Leading Telecommunications Company, Mid Manager

Does DevOps Mean Engineering Change to You?

Analysis of the Current Situation

Compared to last year's DevOps State Report, we have experienced a tendency towards perceiving DevOps more as an Engineering Change. The reason behind this shift might be due to the proliferation of DevOps tools, their increased usage and increased number and skill set of DevOps professionals in the recent years. In addition to that, increased awareness of the importance of DevOps with the help of adopting Agile practices accelerates this transition, too.
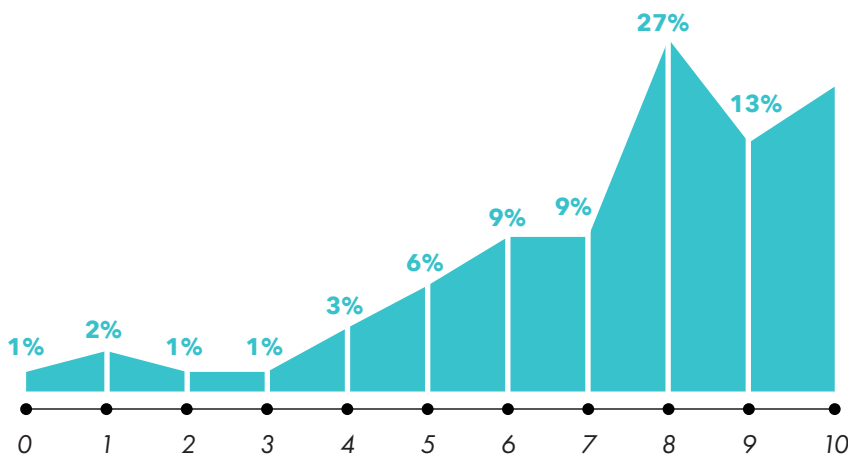
Future Predictions

In parallel to last year's report, as the demand for skilled DevOps professionals will steadily increase, there will be a shortage of skilled DevOps professionals. This shortage can be compensated by attending accredited DevOps courses or taking online courses. From an IT professional standpoint, this means a huge opportunity in the IT market as well.

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How Often Does Your Organization Deploy to Production for Your Primary Application?

48%

26%

14%

2%

7%

More Than 1000 Times a Month

100 Times to 1000 Times a Month

10 Times to 100 Times a Month

1 Times to 10 Times a Month

Less Than 1 Time a Month
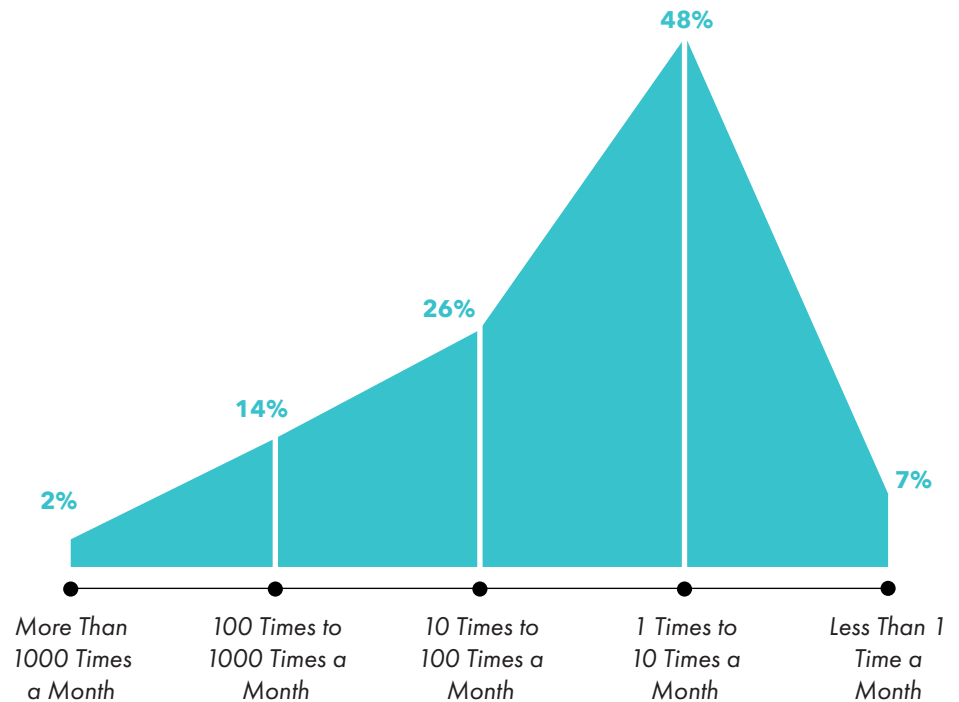
Analysis of the Current Situation

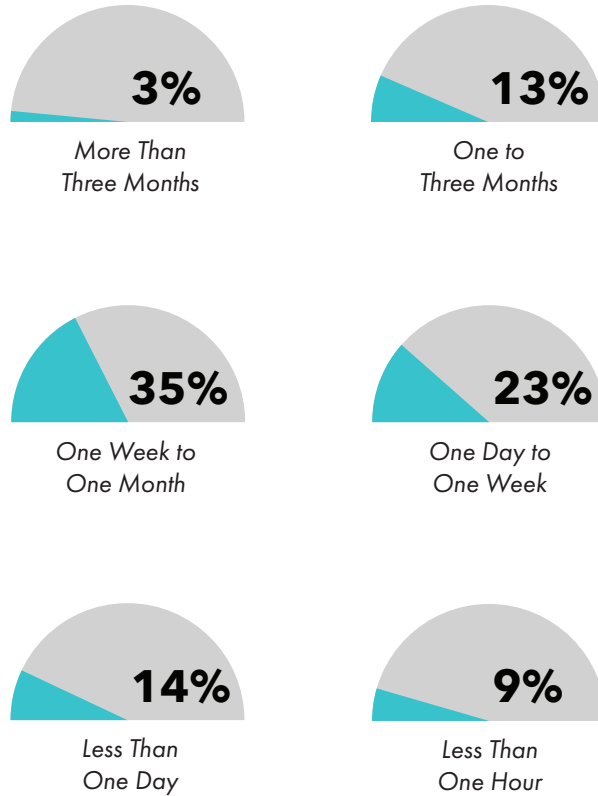The result shows us that the majority of respondents make their deployment to production one time or more than one time a month. This group does not make their deployment more than ten times a month since the majority of these respondents work within the Agile frameworks and make their deployments according to their iteration cycles. At the second majority group, respondents make their deployment to production at least more than two times a week. So, we can say that this group has confidence in their application and deployment strategy.

The third rank belongs to high performers. In this group, contributors keep their application updated eagerly. And they use DevOps practices to eliminate the complexity of their applications. The minority of the contributors appeared at endpoints of the whole spectrum. These are the low performers and elite performers. We find it positive that low performers stay less than ten percent, yet we still worry that elite performers are less than low performers.

Future Predictions

In the future, deployment frequencies will go hand in hand with the Agile frameworks as IT professionals intend to deliver new features at the end of each iteration. Since Agile methodologies are still trending primarily around the Scrum framework, we assume that deploying more than one time a month will be the major practice. Accordingly, performing deployments more than ten times or even more than a hundred times a month will depend on DevOps maturity levels of enterprises where respondents work.

How Long Does it Take to Go Live a New Code Commit, from Repository to Production?

3%
More Than Three Months

13%
One to Three Months

35%
One Week to One Month

23%
One Day to One Week

14%
Less Than One Day

9%
Less Than One Hour

Analysis of the Current Situation

Deployment time is perhaps the most important factor for a company's DevOps maturity level. With Agile and Scrum, companies have achieved agility in software development speed. Development processes, which took fifty six months with traditional methods, decreased to weeks or even days with the introduction of concepts such as cloud, DevOps, orchestration, and etc. into our lives.

The top ranking answers "One week to one month" and "One day to one week" are related to one or two weeks development runs with Agile processes and are the optimum times for DevOps maturity. The third ranking answer is an indication that the application is fairly new or the DevOps maturity is very high. All processes are automated, and the application can survive with a microservice architecture.
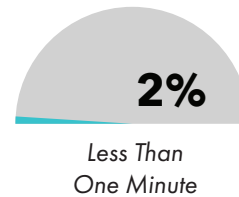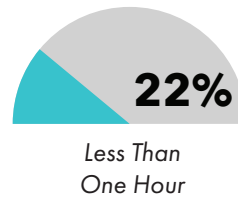
Future Predictions

Following the increase of using cloud platforms and adoption of Agile/Scrum transformations in the future, it is almost certain that companies will decrease deployment duration from weeks to days. Decreasing your deployment times plays an important role in improving your services to customers and minimizing compatibility problems.

In the future, "less than one day" and "less than one hour" will be having higher rates. Because in the IT world where speed is one of the most important factors code will progress much faster in the software development lifecycle with automation technologies.

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What is the Mean Time to Recovery for Your Primary Application?

7%
*More Than
One Month*

10%
*One Week
to One Month*

25%
*One Day to
One Week*

31%
*Less Than
One Day*

22%
*Less Than
One Hour*

2%
*Less Than
One Minute*
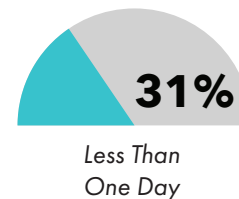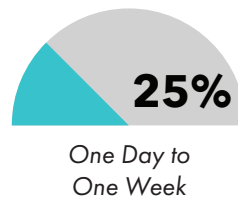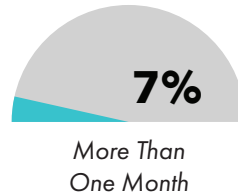
Analysis of the Current Situation

Mean time to recovery refers to the period from when the application is unusable for the end user until it can be used. The fact that the majority of the answers is less than a day is an indication of how important customer loyalty is. Because no user wants to see under construction jpg in their browser anymore. With DevOps transformations, both the problems in the infrastructure and on the code side can be solved or saves more time for solution. We can say that the second ranking answer, "One day to one week" is related to the complexity of the problems rather than the low DevOps maturity. The "less than one minute" option, on the other hand, shows a high level of maturity and indicates that the roll back process can be performed easily and that disaster scenarios are robust.

Future Predictions

Mean time to recovery is one of the most important factors for applications today. Periods of one month or one week of mean time to recovery is unacceptable. Providing uninterrupted service will be an important factor for your DevOps success. This transformation takes place by changing your CI&CD processes to deploy your codes quickly and without any errors.

Thanks to DevOps and Reliability transformations carried out by major technology companies, methods such as minimizing downtime risks and users who are affected will be designed basically, not through conversion, to shorten the MTTR time or to enter different concepts in our life. As a result of the DevOps and Reliability transformations carried out by large technology companies, new methods and architectures will emerge in order to minimize the downtimes and users who are affected by the downtimes.

INDUSTRY
INSIGHTS
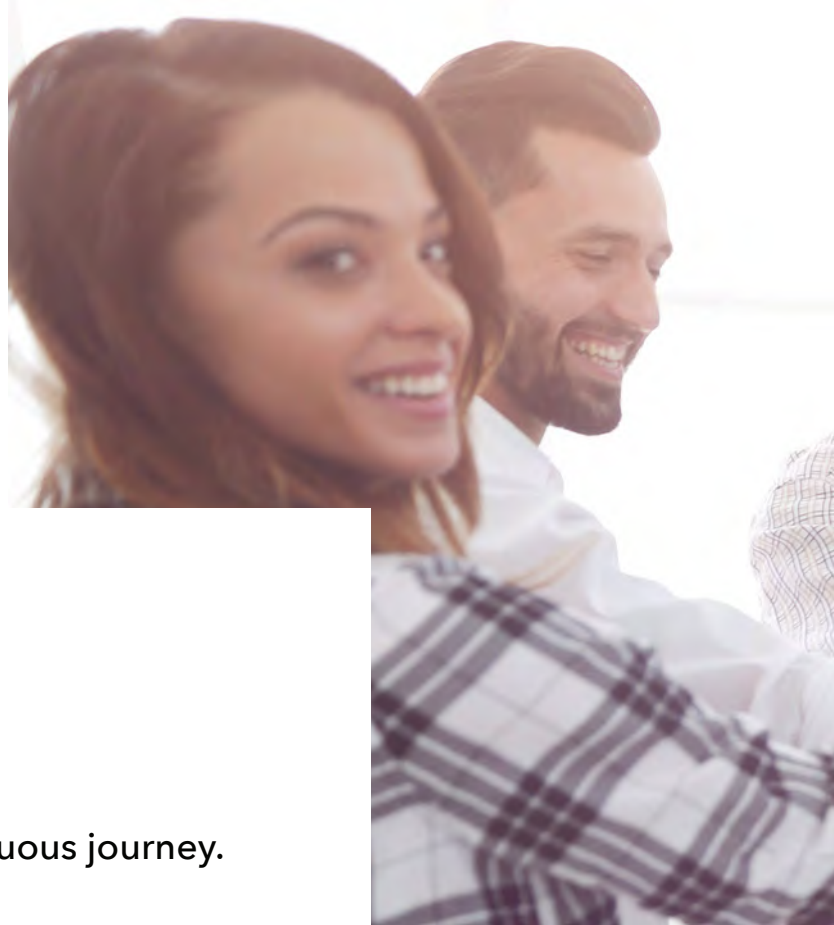
DevOps transformation is a continuous journey.
There is still long way ahead.

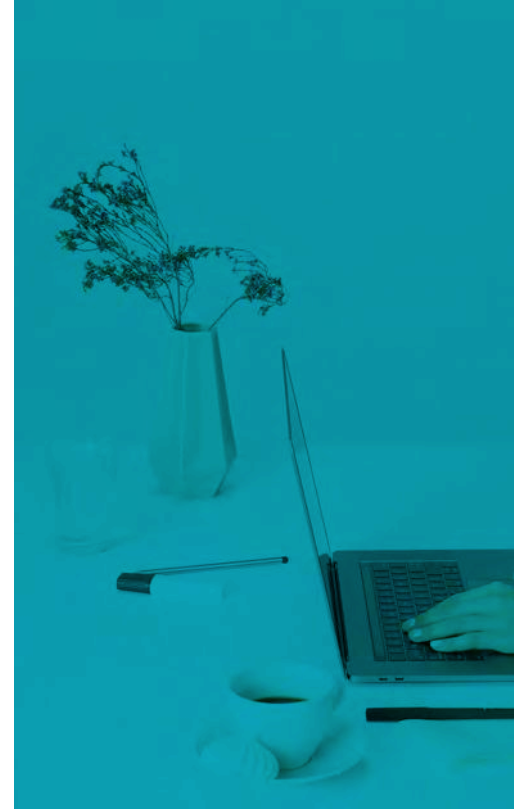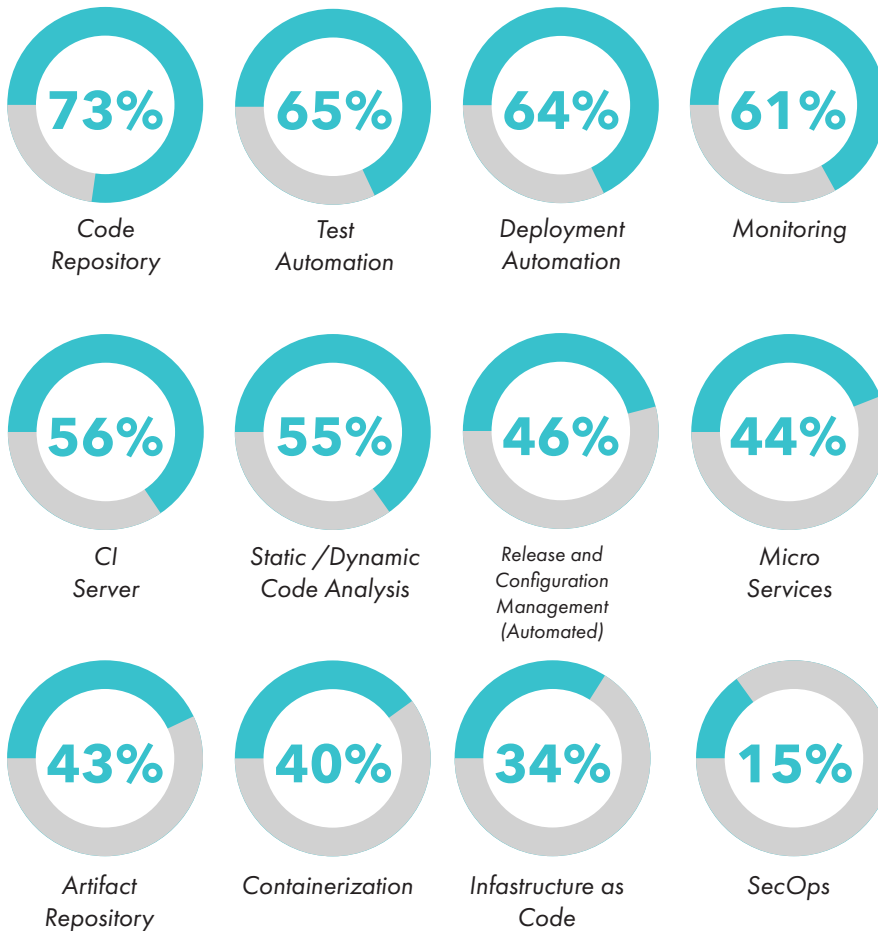**A Leading Private Bank,
Vice President**

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After starting agile transformation, it became more important to release QA approved artifacts frequently to support our agility and assure customer satisfaction.

Retail Company, Senior Manager

Which Tools / Practices Do You Have in Your Organization?

73%
Code
Repository

65%
Test
Automation

64%
Deployment
Automation

61%
Monitoring

56%
CI
Server

55%
Static /Dynamic
Code Analysis

46%
Release and
Configuration
Management
(Automated)

44%
Micro
Services

43%
Artifact
Repository

40%
Containerization

34%
Infastructure as
Code

15%
SecOps

Analysis of the Current Situation

Although the rate has decreased by four points compared to the previous year, 27% of the respondents state that they do not have the code repository tools, the first step of DevOps practices. This shows that approximately one third of the participants have not started the DevOps journey yet. The fact that test automation and monitoring tools and practices are the leading capabilities after code repository as in the last year shows that companies invest primarily in quality providers among DevOps practices.
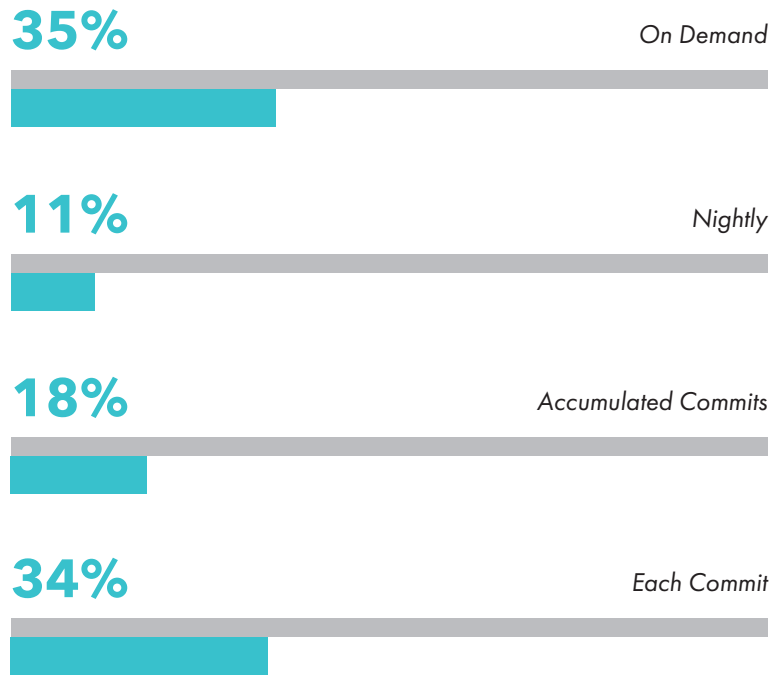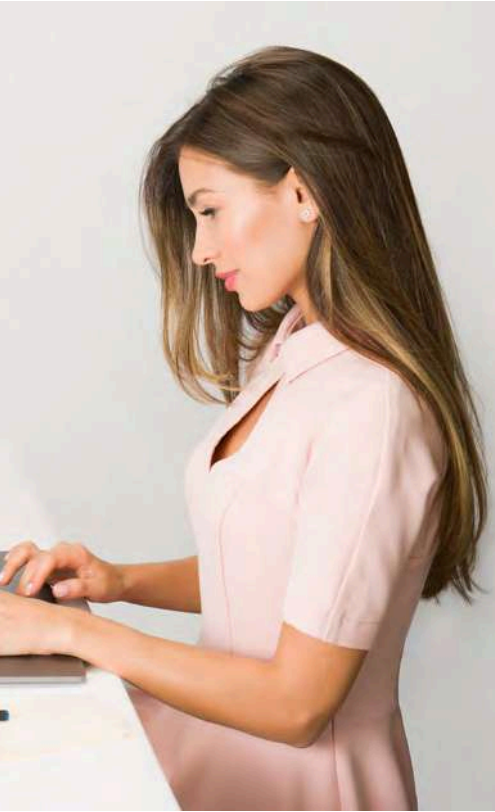
Considering that minimum CI / CD step are develop, build, test and deploy, the ranking of deployment automation right after code repository and test automation is very reasonable. Also, more than 55% of the respondents seem to have the tools and practices to carry out basic CI/CD steps in their company.

Future Predictions

There is no remarkable progress on the SecOps side, which is perhaps the subject that requires the biggest investment among others. However, cyber security, which has become a more important issue day by day, will surely enforce the fact that more organisations make this issue a part of devops practices.

Apart from the basic tools and practices above, it is seen that the general trend is clearly upward in tools showing high devops maturity level. Although it is easier for organizations already working with cloud service providers, large organizations with regulatory constraints, legacy systems with large data centers need longer time to use practices such as infrastructure as code, containerization, etc. Therefore, the growth in such technologies in general will spread over a longer period of time, which should be considered normal.

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How Frequently Your Primary Project is Built?
(With CI Server If You Have Any)

35%   *On Demand*

11%   *Nightly*

18%   *Accumulated Commits*

34%   *Each Commit*

Analysis of the Current Situation

Even though there are four categories in the research reflecting the options of organizational build strategy, a Continuous Integration pipeline designed to produce executable artifacts per commit is what most organizations are trying to implement into their development pipelines. Last year's result was 26.1%. It is obvious that there is an important improvement this year by 8%.

This result is not just a reason for the cultural or toolset implementation change. It seems more like the architectural transformations at monolithic designs which is the enemy of CI per commit and prevents teams trying to maintain shift-left supported by the autonomous techniques.

Although the results state that rapid development approaches are much more mature this year than before, this data should be analyzed together with the automated testing implementations of those organizations who adopted the per commit approach. A build does not create value by just completing compile, link, configure to get the desired artifacts ready to deploy. It should still run, but it must still be validated against all the risks before marking it as "done".

Future Predictions

With the rise of the transformation projects which aim to leave monolithic for microservice architecture, organizations will try to implement core DevOps practices (IaC, config management, and continuous everything) to validate not just a couple test types validation functionality of the software, but also the configuration of security, network, storage, application server configurations as well. Due to referencing the open-source community built artifacts within projects even in enterprise, security checks will be one of the most critical milestones to mitigate vulnerability risks by shifting left within the development pipeline.

Do You Merge to Trunk at Least Daily in the Code Repository?

57% *Yes*

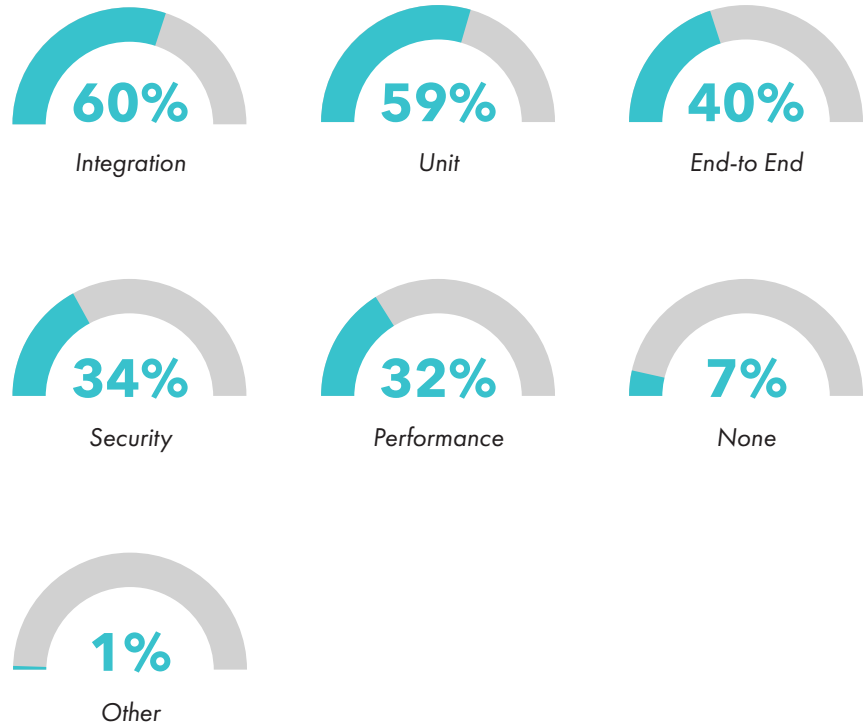**42%** *No*
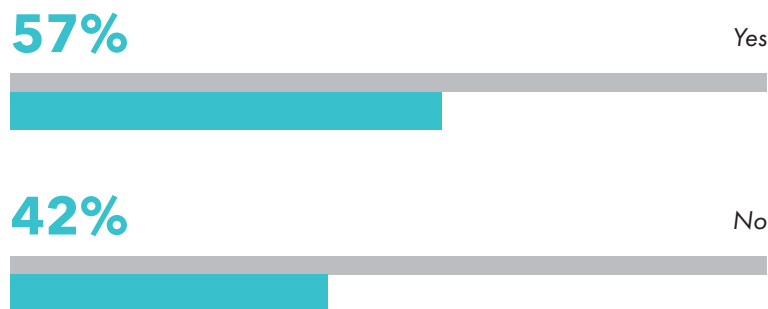
Analysis of the Current Situation

Daily Merging is the key to being continuous in terms of software development. Dealing with small batches is always better than big and heavy ones. It is easier to address errors, quicker to review and predictable to deploy. And also conceives a habit of creating value on a daily basis.

Our survey respondents are polarized at this practice nearly in a half. It is slightly similar to last year's result. The result indicates that DevOps is still primarily handled as engineering activities, not as a culture. At the heart of DevOps lies the target of high-speed value delivery. The frequency of merging determines the capability of how frequently deployment can be performed.

Future Predictions

Increasing the ratio of daily merging is not very hard if DevOps practices are managed as a culture since it collaborates with agile methodologies and is supported by deployment frequency targets. Teams will want to deal with smaller pieces on a daily basis to gain confidence in the progress of their development.

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What Types of Automated Tests Do You Have in Your Projects?

60%
Integration

59%
Unit

40%
End-to End

34%
Security

32%
Performance

7%
None

1%
Other

**Analysis of the Current Situation**

The automated test types/levels play an important role in determining the quality of the product. Integration processes generally take a lot of time, and as a result, we see that a large amount of the respondents are using integration tests to prevent this. Unit tests is another quality element and followed by the integration tests, end-to-end tests, security and performance tests. In this case, we see that performance and security tests fall behind end-to-end tests. We think that this might be due to customer expectations. But, a more balanced test automation pyramid towards efficiency and effectiveness should be built. While the majority who want to meet customer expectations, save time in business processes and produce quality products benefit from these elements, we see that 7% of the respondents do not benefit any automated tests.

Future Predictions

One of the most important Devops principles is "automate everything you can". But, wrong motivation and applications reduce the benefits of automation. For this reason, test automation should be understood and interpreted according to the product. While 17% of the participants did not use any test automation type according to last year's report, this rate has decreased to 7% this year. We foresee that there will be no organizations that do not use automated tests in the upcoming period. While unit tests were more common in the previous year, the use of integration tests has increased this year. We think that decreasing workload and saving time is targeted by using integration tests, and we expect it to increase even more in the coming period.

INDUSTRY
INSIGHTS
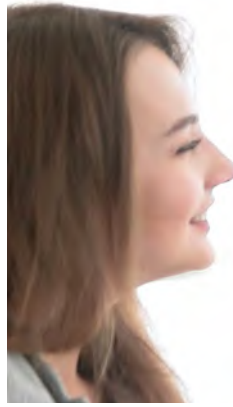
We use seamlessly integrated DevOps tools inside our organization. Those are mainly; Project Management, Version Control, Continuous Integration and Artifact Repository. We operate these tools in a way that communicates with each other. Check any possible problem before deploying to a new environment.
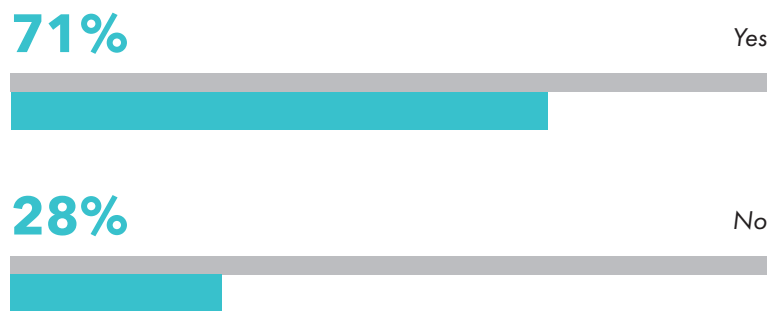
Financial Services, Senior Manager

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Currently we are applying DevOps practices. Getting close to Continuous Software Delivery. However testing processes must be improved and integrated at the right places in order to leverage DevOps.

Fintech, Team Leader

Do You Archive Your Artifacts in a Binary Repository?

71%   *Yes*

28%   *No*

Analysis of the Current Situation

With the developing CI technology, the software development process has evolved from distributing products at certain times to creating a continuous and automated distribution with the help of CI servers. This means that DevOps must support the continuous flow of code from the individual developer's machine to the main production environment. In this way, the product will be kept up-to-date and working. By using the binary repository, the latest version or a previous version of the required application can be easily obtained, also contributing to easier development of the software and better management of the process. 71% of the respondents, who are using binary repository, are making use of the advantages, but 28% of the respondents are using old traditions and cannot benefit from the advantages stated above.

Future Predictions

When we look at last year's report, the use of binary repository, which was 35% reached to 71% this year. Such a leap in one year period means that the devops culture is taken into account and adopted by many companies. While the binary repository provides a high benefit, its low cost may be the main reason for this leap. In the near future, it is thought that the use of binary repository manager tools offering features such as system stability and reliability will become widespread to manage many binaries across different environments.
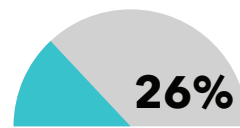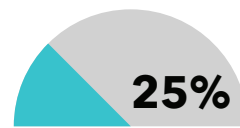
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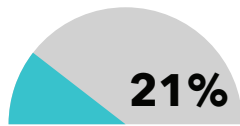# How Do You Lead Your DevOps Transformation?
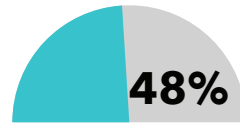
48%
Having Centralized DevOps Teams

38%
Encouraging Teams for DevOps Internalization
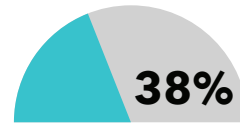
26%
Realizing Continuous Improvements

25%
Empowering DevOps Leadership Role

21%
Focusing on Value-Customer Centric Actions

2%
Other
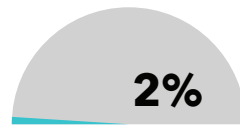
Analysis of the Current Situation

Using Centralized DevOps Teams is still the most prevalent practice to lead DevOps transformation among the organization of respondents. Percentage is almost the same; last year it was 47.8% and this year is 48%. Nearly half of the respondents state there are separate DevOps roles and teams responsible for leveraging transformation. Even if it is considered an anti-pattern by many authorities, it should be examined in which phase organizations use that practice in the process of DevOps transformation. An acceptable approach for the beginning, but not recommended later on.
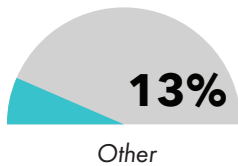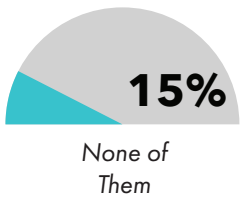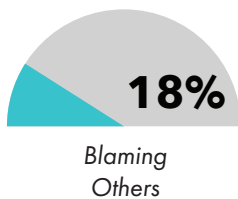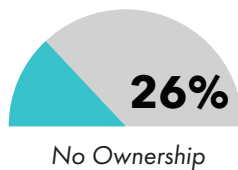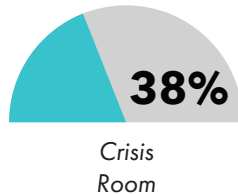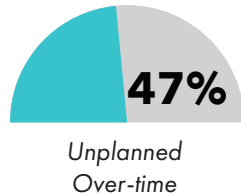
The second rate belongs to Encouraging Teams for DevOps Internalization, nearly doubling its rate compared to last year. Organizations have begun to realize that a sustainable evolution can only be achieved with the whole team.

Future Predictions

Correlated to DevOps awareness and progress in the industry, we may expect Centralized DevOps teams to disappear in time. It will not be required to have such a department or role when all tasks and ownership is internalized. But how to internalize? In this very point, DASA® team structure and competence model brings the wisdom we need.

The DASA® DevOps Competence Model describes the essential skills needed in a DevOps team. DASA® has identified four skill areas, and eight knowledge areas, and outlined what the expected behavior or knowledge is for each of these twelve capabilities. Helps individuals and teams to determine how ready they are for DevOps, and if the team has the right set of skills and capabilities to achieve high-performance levels.

Do You Observe Any of the Following in Case of an Application Problem / Down-Time?

47%

Unplanned Over-time

38%

Crisis Room

26%

No Ownership

18%

Blaming Others

15%

None of Them

13%

Other

Analysis of the Current Situation

The first two answers with high ratings are the basic actions required to solve a problem, whether or not a DevOps transformation has been made within the company. In addition, "Blaming Others" and "No Ownership" options are situations that are against the DevOps culture and increase internal conflict. DevOps culture aims to minimize situations such as blaming others or not taking responsibility within the team. A team member is responsible for all steps of the application/work and is knowledgeable about all steps. Companies that have made successful DevOps transformation may also experience the same problems, but they have employees ready to take the necessary steps for a solution. Instead of doing fire-fighting in order to reach a solution, the problem is detected systematically and suggestions are offered for a solution, then the solution is tested and applied.

Future Predictions

For the long term, adopting DevOps approaches can help the companies in the future. With DevOps pipelines, companies can have a chance to see the root cause of the problems in their test environments. Unexpected production down-times can be prevented with automatic deployment processes and automated regression tests. By this way, overtime can be decreased and problems can be identified very easily. DevOps pipelines also give a chance to manage pilot operations very easily with containerized microservices environments. Following the entire testing and automation processes, if the code base still has problems, a containerized microservice system with pilot approach can reduce the affected area of the problem.
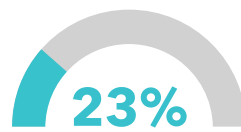
continium

Do You Use Infastructure as Code and/or Configuration as Code Practices for Your Infastructure and Middleware Management?
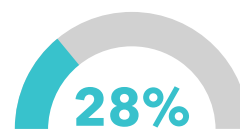
15% *Always*
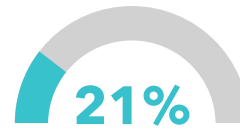
21% *Mostly*

23% *Partially*

28% *Rarely*

10% *Never*

Analysis of the Current Situation

The IaC and CaC disciplines are important approaches for the stability of your infrastructure and product. Since Cloud has been introduced into our lives, we have come a long way in terms of cost advantage and managing structures with IaC and CaC. Stability increases if the medium presentation of each improvement is done with IaC. The high usage rate of IaC and CaC disciplines in the survey results proves the reasoning about stability. The fact that the "Never" option has received 10% of the responses may indicate that it is new in the industry or almost none of the DevOps practices are used in the related organizations.

Future Predictions

In the future, building an infrastructure with IaC will be fully automated and integrated into CI&CD pipelines. Everything from the smallest jobs to the most complex infrastructures will be in code. In large projects, small improvements are safer in terms of risk, so the IaC discipline will be the most important issue for Ops processes in the future. We will not only present the infrastructure as code, but also manage all processes with the "Everything as Code" approach. For these reasons, "Always" option will be the rising answer in the upcoming reports.
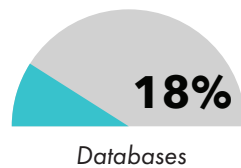
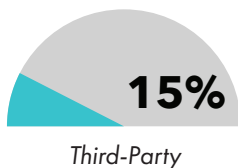# What is the Root Cause of Service Down-Times in Your Organization Whether Faced Frequently or Rarely?

31%
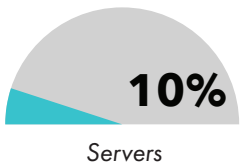*Applications*

19%
Network

18%
Databases

15%
Third-Party Integrations

10%
Servers
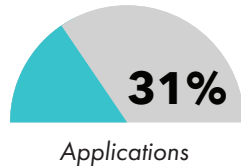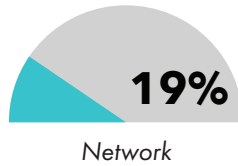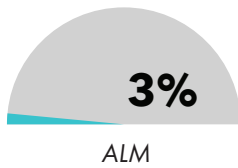
3%
ALM Tools

Analysis of the Current Situation

The primary reason for service down-times is declared as Application according to the research respondents. That means the majority of downtimes originate from human errors. Secondly, Network issues are likely related to downtime. And they have the same share as database-driven problems in the research. The complexity of production systems requires monitoring of resources and also requires teams to master all the components the software has as a whole.
Third party integrations are an unexpected cause of downtimes. Usually, vendors make announcements for these conditions even sometimes they have to deal with emergency downtimes internally. The server related downtimes are hardware problems. With appropriate maintenance service, this can be predictable also its severity can be kept in acceptable levels. ALM Tools have the best consistency between all of these options according to survey respondents.

Future Predictions

Since modern software becomes more complicated, downtimes occurred as a result of entropy. As the development teams gain more interdisciplinary competences, their software components will have more confidence in their product and predict possible failures before it happens. Taking appropriate measures and making use of the advantage of automated controls will minimise and prevent human errors. Chaos engineering fits as a solution for this kind of problems teams are facing. It is also recommended against keeping the MTTR (Mean Time to Recovery) as low as possible.
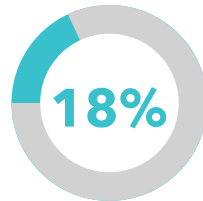
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Do You Benefit Cloud Services for Your Product? If so, What Level of Services Do You Prefer Mostly?
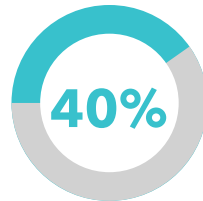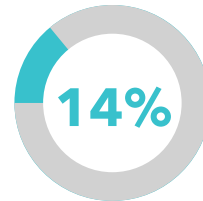
40%
We Don't Use Cloud Services

26%
SaaS

18%
IaaS

14%
PaaS

Analysis of the Current Situation

As a result of various regulations and past investments, it is normal that cloud services are not used and receive high votes in the answers. However, we would not be wrong if we say that a fundamental transformation is taking place after looking at the survey responses. SaaS ranking the second place shows us that managed infrastructure is more advantageous for many applications and businesses.

Future Predictions

It's predictable that the use of all types of cloud services will increase considerably in the future. We can say that the use of hybrid cloud will become widespread in addition to SaaS services by looking at the low-rated answers. Leaving the complex infrastructure problems to vendors and focusing directly on the product and business will increase the competitiveness of companies.

It is Required to Measure Some Key Metrics Regarding DevOps Success. Which Do You Measure in Your Organization?

51%
Availability

47%
Deployment Frequency

46%
Automated Test Pass Percentage

39%
Lead Time

28%
Failed Deployments

23%
Mean Time Between Failures / Mean Time Repair

21%
Deployment Size

19%
Defect Escape Rate
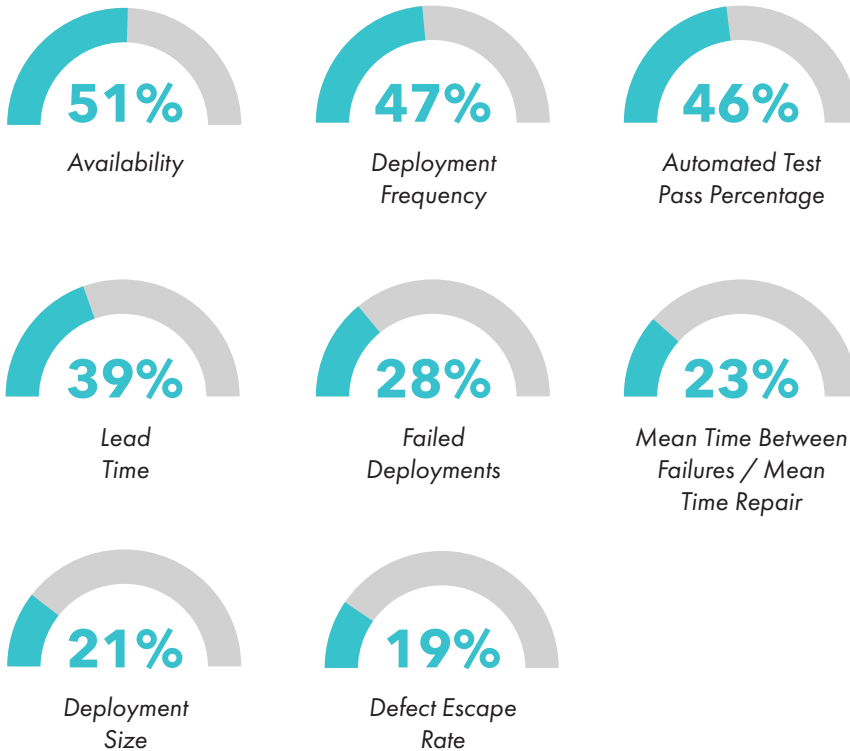
Analysis of the Current Situation

It is not surprising that availability as a DevOps success metric has the first rank according to survey results. If we consider the customer base size for many enterprises, the service availability rate is very important. It is possible to say that organizations want to achieve zero downtime. In terms of deployment frequency which has a ratio of 47%, it may be accurate to say that organizations using DevOps practices want to increase the number of features (or release cycle) they deploy to production. This metric is also associated with lead time, the underlying motivation being the targets of faster productions by using Agile practices.

Automated Tests Pass Percentage, Failed Deployments and Mean Time between Failures/Mean Time To Repair metrics can be regarded as interrelated. Organizations want to go with fewer bugs in the

prod and catch them as soon as possible before they go to the prod. So, it is also possible to say that they give importance to a high automated tests pass percentage.

Future Predictions

It is possible to predict an increase in all of the options in the future. We can say that the success of DevOps does not depend on a single factor and the answers with higher rates will increase in ratio even more in the future. Especially 'Availability', 'Deployment Frequency' and 'Automated Tests Pass Percentage' will again be the answers with the highest ranks. Organizations try to eliminate criteria such as 'MTTR' and 'Failed Deployments' directly.

Do You Have an APM (Application Performance Management) Tool That Continuously Monitor Your System?

71%   *Yes*

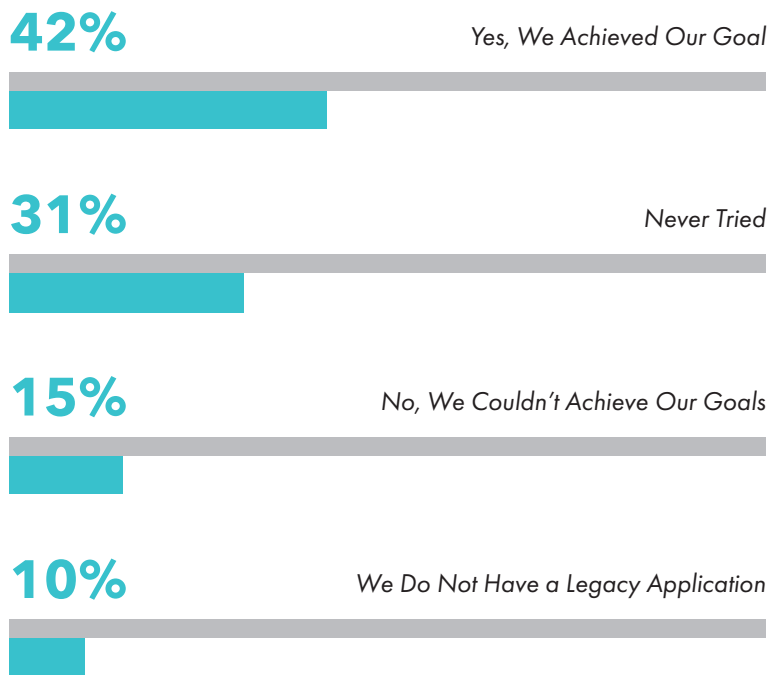**28%**   *No*
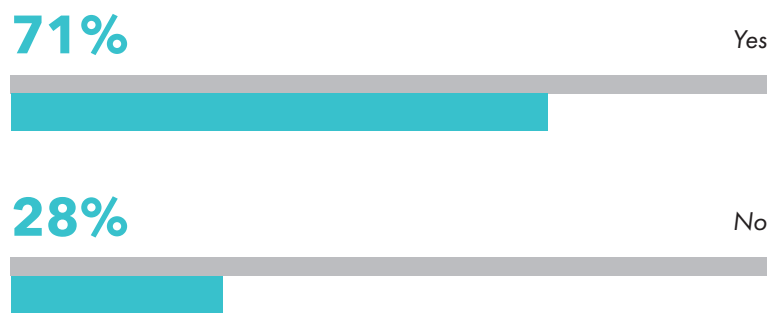
Analysis of the Current Situation

In traditional development and hosting methods, it was the basic method to consume resources by revising regardless of whether they are physical or virtual. In the case of insufficient resources, it was preferred to increase the resources vertically rather than increasing the performance of the applications. However, in today's practices, applications that carry out the life cycle on microservices and containers consume common resources optimally.

For the effective use of resources, an active and continuous monitoring practice at the application level should be turned into a team culture. The survey results show us clearly that this culture is spreading rapidly within the ecosystem. Thus, the awareness that a developer is not only responsible for the algorithm of the code he writes, but also for performance and resource consumption is of great importance today.

Future Predictions

Today's metrics actually give us a clue that these numbers will be much higher in the future. It is also an important factor that APM tools are integrated into applications with minimum time cost compared to the past. At this point, the only point that we think will slow down the increase is the relatively high cost of APM applications. More OSS solutions or lowering the costs of existing and proven APM tools will accelerate the overwhelming advantage of the "Yes" answer.

Have You Ever Tried to Use DevOps Engineering Practices in a Legacy Application? If so, Did You Able to Achieve it?
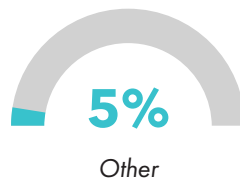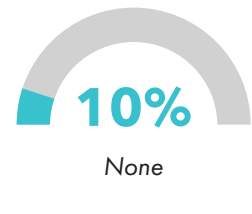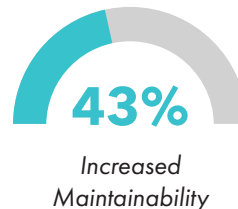
42% — *Yes, We Achieved Our Goal*

31% — *Never Tried*

15% — *No, We Couldn't Achieve Our Goals*

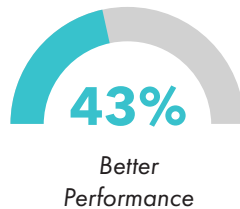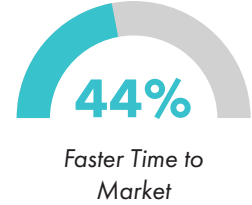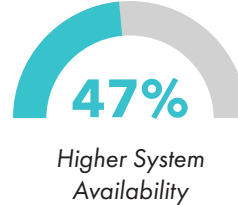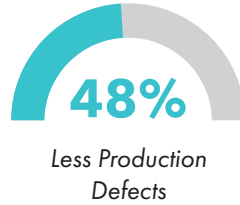**10%** — *We Do Not Have a Legacy Application*

Analysis of the Current Situation

Large companies have taken advantage of legacy applications even when computer and software technologies are very limited, and they have continued their main workflows through these old systems. Thus, legacy applications have come to these days by constantly growing. But in today's advanced technology, new applications are produced within frameworks that provide large abilities even for DevOps framework. If we consider DevOps process as a culture, excluding legacy applications from the scope prevents managing DevOps end-to-end. This leads to the emergence of a hybrid structure that is difficult to manage. The companies that include legacy applications actually have decided to live with these legacies, but others are on the way of shutting legacy systems. So, they do not intend to make any investment on them.

Future Predictions

As the survey results show, legacy systems are still live in the near future but statistics show that usage of them are decreasing constantly. Companies do not make investment on these systems but many times shutting down is not an easy operation. Generally, companies make a long-term plan that takes a few years for shutting down. In this process, it would be beneficial to include legacy applications in the DevOps process as much as possible rather than excluding. Otherwise release operations will be difficult to handle because of dependencies on legacy and new applications at the same time.

How Do You Calculate Return of Invesment for Your DevOps Transformation Attempts? Which Metrics Do You Evaluate Officially?

48%
Less Production Defects

47%
Higher System Availability

44%
Faster Time to Market

43%
Better Performance

43%
Increased Maintainability

42%
Better Customer Satisfaction

21%
Decreased Vulnerability

17%
Less Employee Turnover

10%
None

5%
Other

Analysis of the Current Situation

The result of the survey indicates that companies aim to reduce Time to Market while increasing the quality of products. Especially in industries that customer and market demand change very fast, companies intend to make faster releases in order not to fall behind in competition and regulation. For faster release cycles, high maturity level on DevOps culture provides significant advantage. As a result of successful release operations, system availabilities are affected positively or least not affected because of new application versions.

Future Predictions

The results of survey not only show the current situation but also demonstrates the expectation from the release process. So, in the next years Devops automation will be the main issue for better customer and employee satisfaction. Automated DevOps processes will reduce the reworks or defects that arise because of manual operations. This means the demand for end-to-end release management products will increase.

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We would like to thank our strategy committee and our contributors for their input and guidance on both the process of preparing the research questions and also evaluating the results.

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ABOUT CONTINIUM

Continium helps its customers to challenge digital transformation delivering best-in-class engineering consultancy. It is our ultimate goal to empower enterprises through technology and innovation. We have made a quick start in 2019 in the field of DevOps services, partnering with our local and global clients to achieve our ultimate goal, that is: 'empowering enterprises through technology and innovation'. We are fast becoming the number one choice of the region as a DevOps services provider and delivering internationally accredited DASA® DevOps trainings customized for software engineers and DevOps professionals. Continium has also been selected as the finalist of the DevOps Industry Awards 2019, the leading DevOps awards of Europe.

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