

SOLUTIONS FOR FORWARD-THINKING ENTERPRISES

DEVOPS FOR ENTERPRISE

The best route to business
transformation



DigitalOnUs
Accelerating Digital Business

BREAKING THE MYTH – DEVOPS CAN WORK FOR ANY TYPE OF ORGANIZATION

It is often assumed that DevOps only works for certain kinds of organizations. However, it is safe to say that in this age of technology advancements, all kinds of organizations can adapt to DevOps – small and large. It is soon becoming critical to organizations because of the nature of business. Driving agility through the Software Development Life Cycle (SDLC) will help remove any bottlenecks that exist within the system.

Gone are the days when developers and database administrators worked in isolation. Today, DevOps is changing the IT landscape and is becoming the norm for enterprises enabling more frequent releases. How? Through prioritization on atomization and more importantly closely interacting with the teams and taking ownership of shared services (which invariably means a change in the cultural mindset of the organization).

Summary

Technology has been changing and this change is forcing organizations towards DevOps. DevOps optimizes development and operations activities, using processes that are structured via collaboration and automation. It brings together development and operations teams to make them more efficient and synergized.

A robust DevOps set up combined with agile methodologies helps organizations optimize their working style and create quick turnaround time (TAT) in terms of product releases and provide overall better quality of product or services.

But adopting DevOps is more of a cultural and attitudinal challenge for organizations steeped in traditional modes of planning and delivery. Today, given the need for speed and agility, enterprises need to rethink their operations and product development cycles if they want to create any market impact at all. DevOps is definitely the solid, logical approach to take if enterprises want to break the mould and look at more productive, smart and efficient processes that smoothen the entire cycle from development to release.

This white paper here will elaborate upon the common challenges and pitfalls in the DevOps adoption journey and what you as a business can do to make the transition seamless.

OVERVIEW FOR CONTAINERS

Check out how DevOps works for enterprises and benefits every area of their development life cycle.

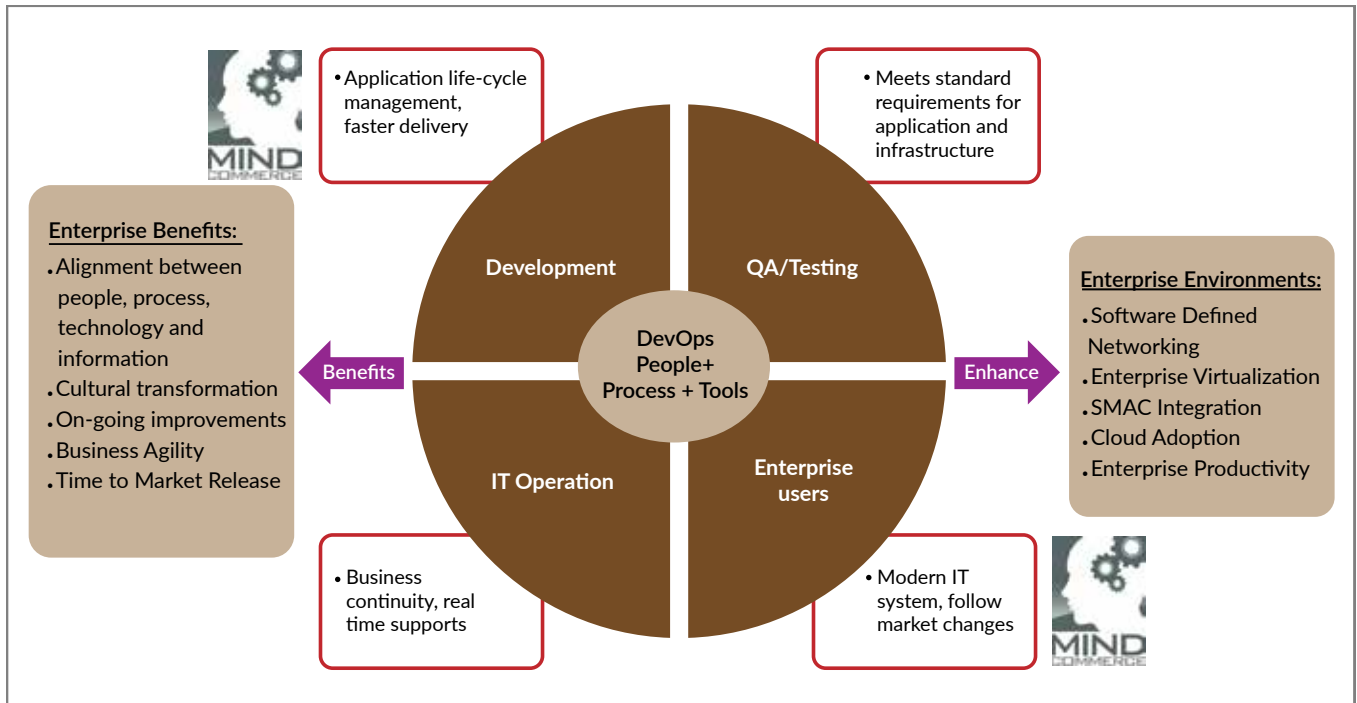


Figure 1 Image courtesy: Article in Linked in by Kabir Ahmad (<https://www.linkedin.com/pulse/how-devops-benefits-enterprises-kabir-ahmad>)



THE COMMON CHALLENGES & PITFALLS ENTERPRISES FACE ON THE DEVOPS JOURNEY

Solving complex problems in IT are increasingly becoming a pressure point. Different arms of the operations and development teams need to work together for a holistic outcome. This need for a synergistic and harmonious working of different functions helps mitigate bottlenecks during the development journey in addition to helping meet the needs of tech-savvy, app-centric business users. This means that there must be synchrony between the software team and IT operations team. DevOps is an amalgamation of new tools, technologies and processes that is helping address all upcoming challenges.

This said everything is not smooth sailing and DevOps comes with its own set of difficulties. According to Torsten Volk, Managing Research Director of hybrid cloud and infrastructure management at Enterprise Management Associates (EMA), in the Tech Republic, "Despite the immense popularity of DevOps today, research data shows a general lack of central governance and automation when it comes to creating new application environments. This leads to pockets of developers using their favorite, often not well-integrated, DevOps tools." What he meant was, structurally, organizations need to implement changes. Also, organizations that haven't yet committed to DevOps are looking to do it because of competition. But competition should not be the only criterion. Studying your own unique needs and requirements and honing in on the right format and its suitability is something that takes planning and careful execution.

Moving Away From Traditional Modes Of Work

If you work in an enterprise that has been performing work a certain way, to bring in DevOps as a change can be a major challenge. It means there's a fundamental change required in how you function as a team. This could be challenging for teams as it would require a basic shift in mindsets and how you work.

Collaboration

You will need to start reducing the go-to-market (GTM) time and collaborate closely with other teams. Collaboration is one of the biggest challenges with adding DevOps to the enterprise. Developers, operation teams and support staff will have to work closely and stay connected; this collaboration takes a little getting used to. However, if they realize they are all working towards the same goal, they will collaborate better and be more efficient.

Security & Governance

In an enterprise's hurry to roll out the next version of the product, it may sometimes overlook the security and governance of the product. This could result in failures with cost implications that could prove to be a huge stumbling block for enterprises. Organizations will have to ensure that security is taking precedence as far as adaptation to the new model (like DevOps) is concerned.

People Focus

Often when enterprises are working with DevOps, it is important not to get derailed or overwhelmed by new tech or processes. You must remember that development is about the people in the team. Focus on people and keep them motivated to work together. Adapting to a new way of working is never easy, and DevOps requires a lot more inclusion of different functions. Therefore, developers and operation teams must view each other as working together rather than working against each other. This takes time and commitment from the teams and the management alike. This also means moving from legacy infrastructures towards newer infrastructures that will take some getting used to.

STEPS TOWARDS TRANSFORMATION INTO A DEVOPS DRIVEN ENTERPRISE

It is important to focus your energies on how to make that transformation seamless.

Quoting from the devops.com website, “The challenge is to navigate through the DevOps transformation and make it happen faster and less riskier. The speed and direction of that transformation depends on individual circumstances—for example, the type of technology you have deployed, the shape of your organization structure and processes, and what your overriding business and IT requirements are.”

Therefore for seamless transformation for enterprises, they would need to keep in mind a few of the steps outlined below:

Step 1: Get early buy-in from the teams

It is important to have an early buy-in from both, the operations and development teams and executives within the organization. Successful DevOps requires all teams to align to the idea of DevOps even before they start planning or processing.

Step 2: Get everyone in on the transformation

A common vision is very important for DevOps to work for your organization. Therefore, the entire team should work towards transformation. This will help all the teams align towards a common goal and share resources.

Step 3: Create a migration plan

Planning the migration is crucial. Think about where you want to migrate to, how much is being migrated, what is the current plan, what are the timelines, how much downtime this will lead to. All of these are important questions that need to be dealt with, while creating a migration plan. Make sure you do not just follow somebody else's plans. Every organization is unique and will need to be tackled differently.

Step 4: Have contingency plans

Given that you have a plan, make sure you have contingency plans too. Sometimes, even if you have a completely drawn out plan, things could go wrong and that will require you to think on your feet and make the changes required.

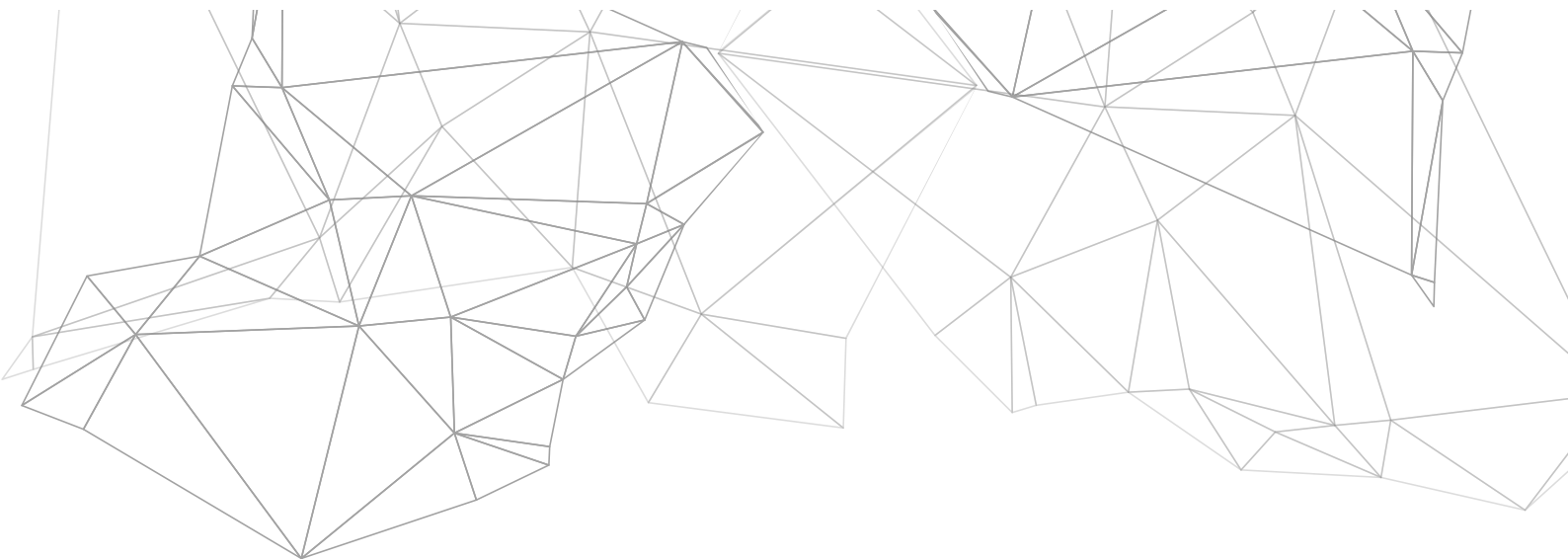
Step 5: Be open to learn and adapt

When adapting to new technology and the DevOps system overall, you will have to learn and adapt to different changes that you might be faced with. This is again where the team and its openness to learn become vital.

Step 6: Be proactive about security

Always give a thought to security. If not enough attention is paid to security features within the systems things can go down really quickly. Be proactive rather than being reactive to the issue of security.

However, do remember that these are only the ongoing steps. Adapting to DevOps is an ongoing process for any organization. So, keep at it and do not fret the mistakes you or your team make along the way, they will only make add to the evolution of a stronger more resilient process.



MEASUREMENT OF SUCCESSFUL TRANSFORMATION OF DEVOPS

There are many KPIs available in the market that let your organization easily measure how successfully your DevOps is working. However, you need to first identify the indicators you want to measure. Some of the best indicators that DevOps is successful would be determined by the culture of the organization, agility, quality, and time taken for development and implementation.

According to the HP document on Measuring DevOps Success, “A recent Gartner survey of IT and business leaders revealed that “people issues” were the biggest challenge organizations faced in adopting DevOps, with 43 percent of respondents citing resistance to change as the biggest inhibitor. Because DevOps requires cultural transformation along with technology and process changes, executive support is critical.”

Measuring the culture of an organization will largely depend on the team's satisfaction indicator. Monitor team retention, gauge effectiveness of communication and knowledge sharing and transference and ability to adapt to change are all vital indicators to measure success.

For instance, DevOps enables faster delivery. However, understand how to measure it could be tricky. Pay attention to delivery timelines and speed of delivery, start measuring how long the teams are taking to fix bugs and how easily and frequently are they delivering. These are key factors that you can measure efficiency and agility of the system by.

Besides turnaround time (TAT) of deliveries, also start paying attention to quality. This is largely due to automated testing. Therefore, defect rates, success rate of deployment and so on become a relevant measure of the quality of the product or service that is being developed.

Time, as we say, is money. DevOps reduces the go-to-market time and therefore time becomes an indicator to success to see if DevOps really has helped speed up the development, deployment, and installation processes.

So speed, quality and time are 3 key measures of success for a successful DevOps journey within an enterprise.

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WHAT BEST PRACTICES CAN YOU ADOPT

This said, there are some best practices that enterprises can adapt to make their journey with the DevOps models both successful and efficient. Here is a list of some of those best practices.

Break the silos in IT	The first and most important step during the migration to DevOps is to ensure that you break the silos in IT. You must ensure that the teams interact with each other. This means getting the operations and development teams working together and providing a feedback loop.
Start small	Start small: DevOps has to grow within the organization. So, start using DevOps in smaller sections, see how it is working for your organization and then start to expand it across. There is no true value in jumping into something that you are not completely sure of and having the whole organization fail.
Focus on the end user	Focus on the end user: There is no substitute for end user satisfaction. Therefore, even if you are changing how you work internally and making it more inclusive for the different teams, ensure that your focus still remains on the end user – your external customer; because remember he or she is adding to your profitability and they should be the focus of your product development.
Automate testing	Automate testing: Try to adapt to automated testing. Automated testing makes it easier to test, and as a developer or IT personnel that has adapted to the agile methodology, automated testing can be done more often and efficiently. Also, it is not just testing, it's an ability to take code and run standard testing routines to ensure the quality of the code. Test-driven development (TDD) and behavior-driven development (BDD) are important aspects of the DevOps model because they often lead to higher quality products in a short period of time.
Communicate with stakeholders	At the end of the day, your product or service is as good as the stakeholders involved in making it. The operation teams, developer teams and support staff must work together as often as possible, to ensure that they are all working towards the same outcome.

Continuous Integration (CI)	Continuous Integration helps build and validate a project using automated regression testing. CI helps build high quality products providing faster feedback cycles, making the entire development process easier and efficient.
Deployment planning	Most organizations have a deployment plan to ensure what changes are going into a particular release and the kinds of timelines involved. This needs to be done in correlation with all the teams involved. Quoting an article from Dr.Dobbs,"When you adopt a DevOps strategy, you quickly realize the need to take a cross-team approach to deployment planning due to the need for operations staff to work with all of your development teams."
Change management	Change is constant, technology is no different. However, this change needs to be managed across teams for a seamless immersive experience. This is not always easy. DevOps provides solutions at an enterprise level, and the strategy to integrate change management is more complex. This requires active stakeholder participation, testing that is automated, and configuration management that is integrated.
Use compatible tools	All requests for changes should be kept in a tool repository. This is outside of logging the progress of how the software progresses. There are multiple tools available for this. However, it is important to check if all the tools are compatible with each other. DevOps enables enterprises to automate change request acceptance.
Log metrics on automated and manual processes	There is no substitute to monitoring how well DevOps is working for the enterprise. All processes, both automated and manual, must be logged and the metrics evaluated. This will help the teams adjust processes of product or service development and further tweak it to better the process.
Prioritize feedback	Ensure that there are quality checks under both the development and operations team. This means keep a tight feedback system that ensures that everyone is involved and contributing. Focus on end-user usage and make sure the teams stay involved.

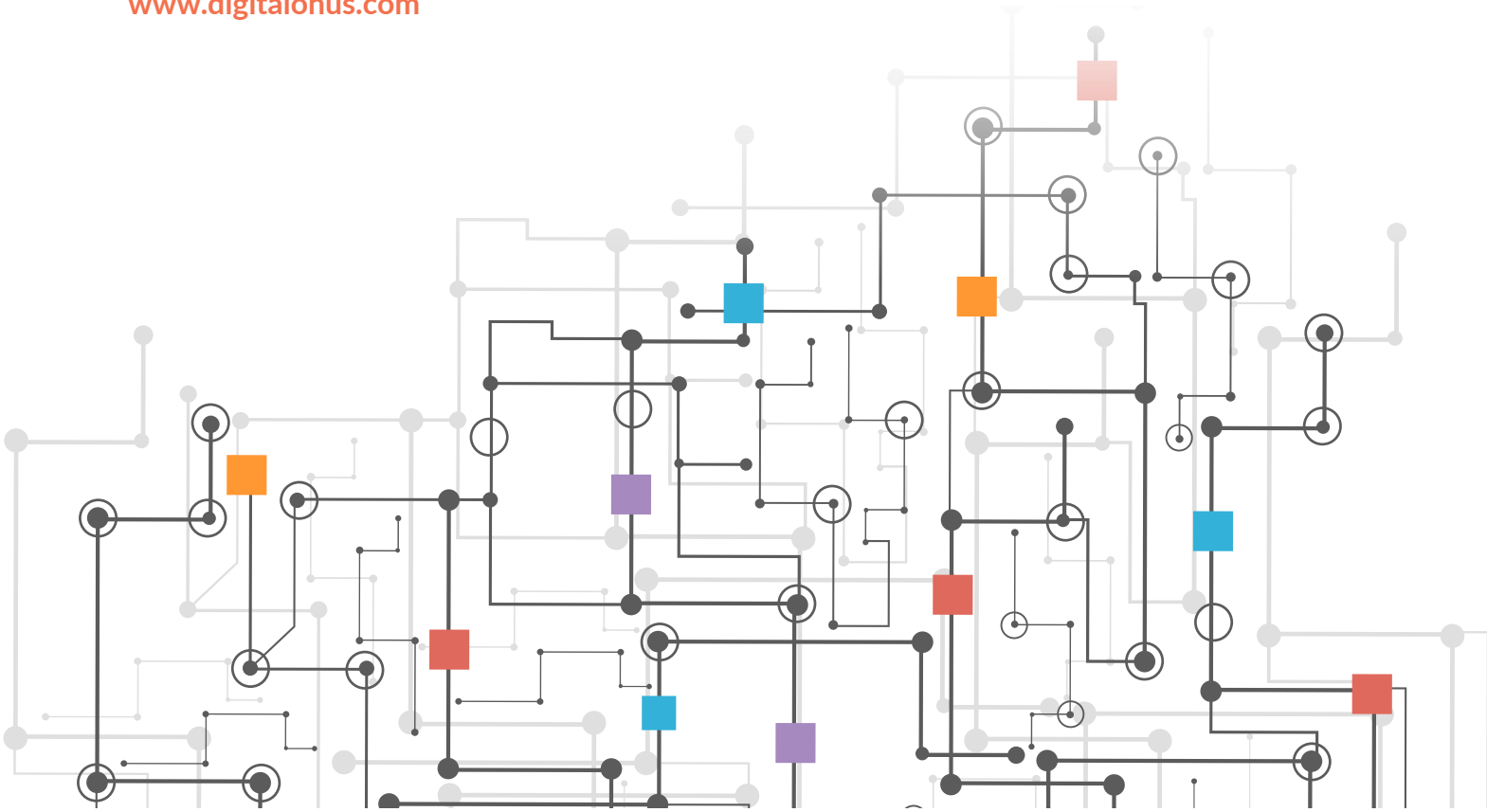
IN CONCLUSION

There is no doubt that the IT world is moving towards DevOps. However, as an enterprise embarks on the journey, it is vital that they do it right. They must have a buy in from the teams and chase a common goal or vision. It is also important that they keep course-correcting for anything that is not going right. Additionally, use the many tools available in the market to both use DevOps effectively and measure the organization's success.

ABOUT DIGITALONUS

Headquartered in California, USA, DigitalOnUs is a new-age technology services company serving clients with intelligent outsourced technology augmentation and development services with an expert near-shore delivery team based out of Mexico providing outcomes that are affordable and measurable. Our nimble processes are not mired in red tape, yet robust, flexible and result-oriented. It helps keep our teams on point and focused, at the same time our customers appreciate it.

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