

Three Secrets to IT Transformation – DevOps, Containers and SDI

It is not necessary to change. Survival is not compulsory.

That sounds harsh, but it's a stark reality for modern business. There are plenty of organizations that have ignored the need to change, adapt or innovate. Many were household names and when they faded or failed, they became headline news for all the wrong reasons.

The truth is that survival not only depends on the ability to change, but also to change faster than the competition and fast enough to keep up with and satisfy customers' demands.

The new digital economy, combined with advancing mobile technologies, have profoundly changed the world around us. Customer demands for immediate information and services are driving change. There are a host of new technologies to deal with, including IoT (Internet of Things), data analytics, AI (Artificial Intelligence), ML (Machine Learning) and robotics.

Businesses of all types need to find ways to adapt and transform their IT strategy to keep up. That transformation needs to include:

- How we do things. The organizational structure (people), processes and methods that help to deliver agility and innovation.
- What we use to get things done. The tools needed to drive automation and improve efficiency.
- The infrastructure that underpins and enables everything we do.

What do business leaders believe are the secrets to a successful IT transformation? SUSE commissioned a large global independent research study¹ to investigate. The findings of the research highlight that DevOps, containers and SDI (Software-Defined Infrastructure) are high on the agenda.

Here are the reasons why. Breaking Down Barriers with DevOps

DevOps is all about doing things faster and more efficiently. No longer the "new kid on the block," DevOps is now a concrete part of the IT landscape.

According to SUSE's research study¹, 77 percent of enterprises are planning to embrace DevOps for application development and 86 percent see it as part of their future strategy.

But what exactly is DevOps and is it a good fit for your organization?

Simply put, DevOps is a methodology for speeding up software development cycles, making it possible to deploy software into production faster, more often and more reliably. It aims to accelerate all phases of the process, from build, to test and deployment. It also fits well with a Continuous Integration, Continuous Development (CI/CD) approach.

77% of enterprises are planning to embrace DevOps

DevOps is a form of lean, or agile, software delivery that aims to break down the barriers between the Development and Operations teams that have traditionally operated in silos. The idea is to promote collaboration and more closely align the whole software development process to business objectives and customer requirements.

Implementing DevOps involves more than just choosing the right tools and automation techniques. It requires a cultural shift in the organization that might go against decades of entrenched IT thinking. It will require cooperation and fresh thinking from everyone involved. But when implemented well, it is the ideal approach for developing innovative, cloud-native applications at scale and speed. Customer satisfaction can also be improved, because new features are released faster.

Embracing and adopting DevOps may well be the ideal approach for your IT transformation journey.

¹ Source: SDI, Containers and DevOps - Cloud Adoption Trends Driving IT Transformation

Developing Workloads with Containers

If your business is under pressure to deliver software products and services faster, using container technologies might be just what you need.

SUSE's research¹ reports that 27 percent of all organizations in the study are already running containerized applications and that 44 percent plan on using them within the next 12 months.

The growing interest in and adoption of containers is clear. Analyst firm 451 Research predicts that containers will be a \$2.7bn market by 2020² and estimates the growth rate at an impressive 40 percent per year. Application delivery solutions and tools to make the development, orchestration and lifecycle management of container workloads faster and easier are arriving quickly, with platforms based on Cloud Foundry and Kubernetes leading the way.

Why are containers getting so much attention and why do IT leaders view them as a critical focus?

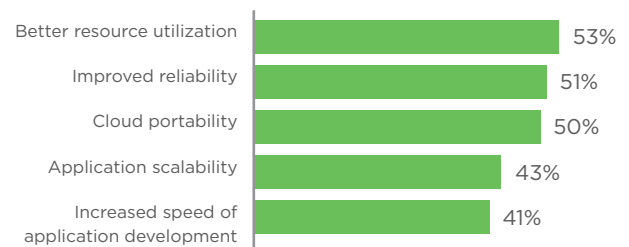
Containers are a way of taking virtualization to the next level of efficiency. They are self-contained and isolated environments that include everything that the code enclosed within them needs to run independently. Because they don't need a hypervisor or the fully embedded OS (Operating System) required by a traditional VM (Virtual Machine), containers are far simpler and more lightweight in terms of resources. This makes them fast and simple to spin up, dynamically scalable, consistent and predictable. Containers are also highly versatile and ideally suited for hosting either microservices (single function applications) or whole applications, and can be easily linked together to build more complex solutions.

44% plan on using containers within the next 12 months

The popularity of containers is growing because they offer a path to modernize legacy or traditional workloads and speed up the development of new cloud-native applications and solutions that need to be scalable, resilient and agile.

The top benefits of containers highlighted by SUSE's research include resource utilization, reliability, cloud portability, scalability and speed of development.

Figure 1: Benefits of developing workloads using containers



Given the ever-increasing popularity of containers and the advantages of DevOps, it's no wonder many organizations are deciding to combine them as part of their IT transformation strategy.

² 451 Research: Application containers will be a \$2.7bn market by 2020

Software-Defined Infrastructure is the Future of the Data Center

SDI is at the heart of IT transformation.

Data centers have traditionally been built using hardware architectures that are too rigid and slow to respond to the needs of modern dynamic applications, especially those designed to run in the cloud or in a hybrid environment. By contrast, SDI focuses on software innovation over hardware. It separates the hardware from the applications and software that will run on the platform. Advanced functionality and automation are delivered by software rather than expensive proprietary hardware. Compute, networking and storage capacity is provided in dynamic, easy-to-use pools of resources that are quickly deployed and easily managed, based on the needs of the workloads or users.

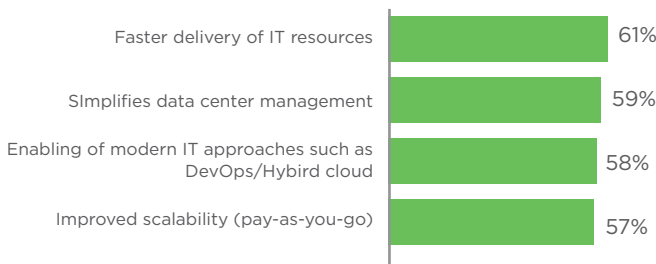
SUSE’s research¹ reveals that 95 percent of organizations believe SDI is the future of the data center. The expected benefits help to explain its near-universal popularity. Faster delivery of resources tops the list, closely followed by simplified management, enabling DevOps or hybrid cloud and improved scalability.

When considering SDI, many organizations automatically think of public cloud solutions. With fast and easy access to dynamic resource pools, cloud computing is the very definition of a software- defined infrastructure. There seems little doubt that more workloads will move to public cloud environments over time.

However, many organizations report that two-thirds of their IT assets are still deployed in their own data centers.³ A significant portion of these are traditional or legacy workloads that are vitally important for an established business, and they won’t be moving any time soon. They also present a major challenge. As one business manager explains, “Over time, maintaining these older workloads becomes a real headache, especially as vendors stop releasing bug fixes and as the tribal knowledge inside the company dwindles. We also face a pressing need to replace the aging hardware they run on, as warranties expire. We need a data center strategy that allows us to integrate, adapt or evolve these legacy applications.”

A private cloud delivers an SDI platform for existing data centers, helping to resolve these issues. SUSE’s research¹ shows that 55 percent of IT leaders expect their private cloud spending to increase over the next two years. In addition, 66 percent anticipate hybrid cloud spending to grow, with private cloud a key part of any hybrid cloud deployment.

Figure 2: Benefits of Software-Defined Infrastructure



³ Uptime Institute Annual Survey Results: Enterprise-owned Data Centers Still Primary Compute Venue

Three Secrets to IT Transformation Revealed

Successfully delivering IT transformation is no easy task. Otherwise, everyone would have done it by now. It involves business strategy, people, processes, tools, investment and a host of other factors.

Understanding what's on the to-do list of IT leaders is not the secret to IT transformation. SUSE's research shows that there are no major surprises there. DevOps, containers and SDI dovetail as critical elements in the transformation strategy for most businesses. All three have been around for some time. Cloud computing and SDI are well into their second decade, while DevOps got its start way back in 2008, and Linux containers were first available that same year.

The real secret to IT transformation is how to bring all the elements together successfully to get the job done. It's about delivering the full business benefits of DevOps, Containers and SDI.

Here are three critical factors:

1. Define the business case and gain the buy-in of sponsors and stakeholders

Your organization's ability to change will determine whether it will thrive or even survive.

People can be the biggest barrier to IT transformation efforts. Gaining and maintaining the support of executive sponsors and all key stakeholders is critical. It makes sense that the IT transformation strategy must involve decisions in the boardroom, but it must also be understood and supported at all other levels of the company. The alignment of the transformation strategy to business goals must be understood and the benefits explained in terms of cost reduction, new revenue streams, impact on P&L or share price, and return on investment (ROI).

The best plan is to deliver success in stages. Make sure you get some quick wins and publicize them well.

2. Gather the right team and skills

IT transformation is being driven by new and emerging technologies. Unsurprisingly, the skills for these new technology areas are in short supply and command a

premium in the employment market. SUSE's research reveals that IT professionals view gaining experience in these areas as critical to their career progression, with private, public or hybrid cloud, containers and DevOps being right at the top of their wish list.

Building, training, hiring and retaining the right people and skills need to be a top priority for all forward-thinking organizations.

3. Keep your options open

"No modern solution can be an island."⁴ Instead of the massive monolithic software solutions of the past, IT transformation efforts are now focused on combining modular, open source solutions that are scalable, adaptable and that integrate well together.

Open source enterprise solutions such as Linux, OpenStack, Docker, Kubernetes, OCI (Open Container Initiative) and Cloud Foundry are leading the way in the fields of DevOps, containers and SDI. They are set to be at the core of transformation and innovation strategies for modern businesses.

To learn more, contact SUSE, or visit us online [HERE](#).

⁴ Bain & Company: Six IT Design Rules for Digital Transformation



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