

White Paper

Scale with Containers

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To thrive in a software-driven economy, enterprises must create exceptional customer experiences by delivering new capabilities faster, more efficiently, and more often. To achieve this, leading IT executives are adopting a new mindset and embracing a new model which brings enhanced levels of automation, scale and speed by merging people, processes and technologies.

Forward-thinking IT leaders are embracing a smarter way to build, deliver and manage applications across their entire enterprises. This new approach brings improved speed, scale and efficiency through a combination of teaming, iterative processes and open source technologies such as containers and Kubernetes.

This relatively new model can help you bring better products to market faster — while you modernize your existing applications — and create exceptional customer experiences. It can enable faster innovation in response to changing markets. And it can help you enhance productivity.

Addressing Needs Across Organizations

Developers are at the tip of the application transformation spear; their push to move faster is a driving force for change. To get new features into production faster, they need simplified and automated processes that help them reduce cycle times. But many lack the cloud native skills they now need around containers, microservice architectures, DevOps teaming and continuous integration and continuous delivery (CI/CD) processes.

- 1 Gartner: 6 Best Practices for Creating a Container Platform Strategy
- 2 The Linux Foundation: 2018 Open Source Technology Jobs Report
- 3 Flexera: RightScale 2019 State of the Cloud Report
- 4 SUSE case study with enterprise blockchain software provider, Tymlez

Market Snapshot

The cloud-native application delivery market is in the 'early majority' phase — the container market is growing, demand for new skills is rising and more than half of enterprises are already leveraging the de facto standard container management platform, Kubernetes (an open source container orchestration system for automating application deployment, scaling and management).

75%

of global organizations will use containerized applications in production by 2022¹.

57%

of hiring managers are actively recruiting new employees with container expertise for their companies².

60%

of enterprises are already leveraging Kubernetes³.

75% faster

deployment of production-ready Kubernetes clusters (compared to a typical deployment of upstream Kubernetes code) for enterprise blockchain software provider, Tymlez⁴.

With internal development teams and independent software vendors increasingly providing software in containerized form, application operators are now being asked to deploy and manage containerized applications in production. They may also take new responsibility for building and managing deployment automation in software development and release pipelines.

Mastering this new role is not easy. To be successful, operators need to learn to use a complex new container platform (Kubernetes) to automate management of new containerized applications, at scale. Typically coming from the IT organization, they may also need to break through long-standing organizational and process barriers; they must work more closely with developers to understand the operational needs of new 'self-managing' applications.

To serve their internal application dev and ops customers, container and application platform operators feel pressure to quickly get new, unfamiliar technology platforms up and running, while maintaining governance and control over their use, and managing ongoing cluster operations efficiently. At the same time, infrastructure operators are challenged to optimize infrastructure utilization with containers, automated orchestration, and flexible use of cloud resources.

It's all new, and there's a lot to learn.

It's no surprise that many enterprises are struggling to evolve through the change. IT executives must shift to a new application delivery approach while also modernizing their significant estate of existing applications, evolving applications, processes and people through the transition without dropping any balls.

And, with few established best practices and so many vendors, IT executives are uncertain about how to proceed, when to move forward, and with which partner. The stakes are high, as poor choices now may lead to dead ends and high switching costs later.

Evolution is Multi-Faceted

To increase both velocity and scale, enterprises are architecting, developing, deploying and managing containers in a more cloud-native way. This approach merges the use of iterative processes, open source technologies and integrated teaming, including:

- applying agile development practices supported by pipeline automation for CI/CD.

- using containers for efficient code packaging and portability and employees.
- adopting microservices-based architectures so application components can be deployed, scaled and operated independently.
- leveraging a container management platform like Kubernetes to automate application deployments and lifecycle management operations.
- integrating DevOps teams and processes so services and applications can be deployed more frequently and automatically through a continuous cycle of development and production.

Clearly, the scope of transformation is significant, touching multiple practices across several organizations. The good news is that most enterprises are already employing one or more cloud native practices, and are realizing some acceleration benefits today.

Successful business and IT leaders are now taking advantage of opportunities to expand their practice for still greater value. They are recognizing the important roles played by every organization involved in the application delivery lifecycle and the different transformation challenges faced by each. As a result, they can build and execute a strategic plan that supports the needs of each team and of the business as a whole.

The Foundation for Change

While business transformation involves multiple dimensions of change — including application architectures, organizational models and process automation — the first step in modernizing your own approach is to give your teams the enabling tools they will need. These include:

1. Small, fast and portable containers, which are easier for developers to use than virtual machines. Modern applications are now universally packaged in containers.
2. A Kubernetes platform to automate container management and enable large-scale deployment and operation of containerized workloads. It's not just what Kubernetes does, but how it does it that is truly game-changing. Provided with a description of a workload's desired state, Kubernetes automatically ensures that the workload maintains that state. This eliminates the need for application operators to worry about infrastructure management, and is key to enabling modern, containerized, and rapidly evolving applications to be deployed and operated at scale.

3. An application platform to simplify use of Kubernetes for faster time-to-value. In the hands of an expert user, Kubernetes can be made to efficiently manage any containerized workload, yet its power and flexibility come at a price; Kubernetes is a complex platform with a steep learning curve that can hinder its most effective use.

Succeed with SUSE

SUSE offers the technologies you need to meet the challenges you will face in scaling your enterprise with containers. Use SUSE solutions to:

- Increase competitiveness with faster and more frequent delivery of new and better products and more engaging customer experiences.
- Build applications faster with easy, fully automated deployment of containerized applications that speed CI/CD iterations and shrink software release cycle times.
- Deploy and manage applications at scale with workload automation, governance, and control that stretch across organizations, clusters, and clouds.
- Scale IT capacity with application delivery process automation and standardization that enhances productivity, reduces errors, and optimizes resource utilization.
- Keep your options open with industry standards and modular, no lock-in solutions from an enterprise vendor you can trust.

Contact us for a trial, or learn more about our products:

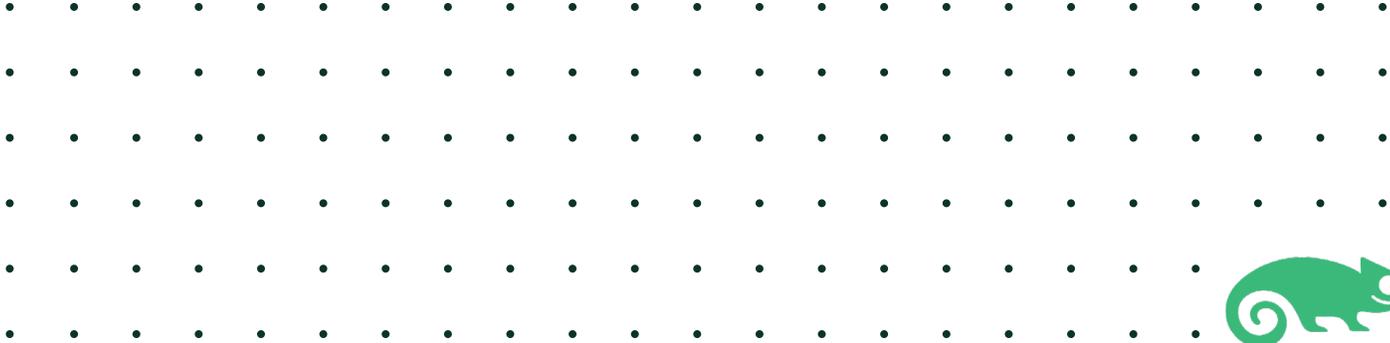
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SUSE Cloud Application Platform

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