**Deloitte.**Containerization
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## **Containerization**

# Performing across operating systems, processes, and platforms

The speed of business today can demand on-the-fly customization, instant scalability, rapid response to emerging security challenges—which cannot always be achieved with traditional on-premise systems. Containerization creates a loose coupling between different workloads and their underlying infrastructures. This enables portability and flexibility, creating opportunities to dynamically deliver workloads while managing costs and performance points. And containers are engineered to perform across operating systems, processes, and even platforms.



# Our perspective

#### Abstract away differences in OS and infrastructure

Containerization can play a key role in technology revitalization efforts. Why? Containers generally have lower overhead than virtual machines, and container systems can provide isolation between containers, potentially enhancing speed, improving security, and offering stability benefits since numerous containers can be brought to life (or shut down) quickly. Even if you don't take the plunge today, looking to adopt containerization into your emerging architecture principles should be a consideration.

#### Spin them up, spin them down, but plan for workload

Containers can help developers break services into small, manageable pieces whether on-premise or cloud native. And the more you can put into a shared environment, the less application and infrastructure resources you're likely to need—which can translate to cost, speed, and even stability advantages. The real challenge? Workload scheduling and management can get exceedingly complex, so one key to taking full advantage of containers is knowing how to script Kubernetes for various workload types, as well as scaling up and down.

#### **Compliance and security**

Virtualization and containerization may require abandoning certain long-held systems architecture design principles. New tooling around new issues is a critical conversation to have if you plan to get to a shared, confident understanding of containers in the context of security and compliance imperatives—particularly in public cloud deployments. The cost, speed, and flexibility benefits can be enticing, but should be considered in light of new and different compliance, risk, and security approaches.



### Unveiling what's next

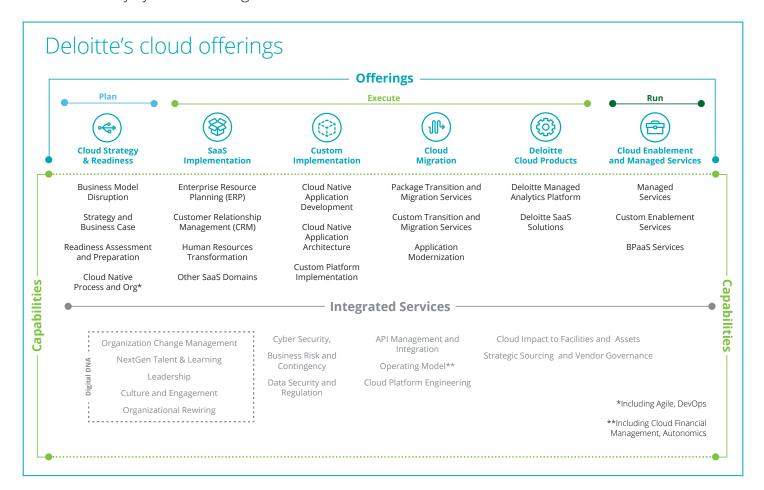
For an increasing number of companies, containerization has gone from "wait and see" to active adoption. Many barriers are diminishing as industry standards come into place and as the upfront investment required to re-architect applications onto these platforms drops steadily. In short, if they aren't in your system already it's likely containers may be in your future.

What's the reward for those who succeed? Moving more functions to cloud technologies securely and compliantly can enable you to improve speed to market, gain greater control of scalability and costs, and spend less time on configuring. It can be a powerful step toward focusing more time and energy on innovative new releases and enhanced customer experience.

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