

# Dell Technologies for cloud-native applications

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Dell Technologies portfolio of products and solutions empowers DevOps teams to deploy and operate cloud-native applications while efficiently responding to business demands. They can easily access open-source and API-driven enterprise tools that enable seamless integration for modern applications on bare metal, containerized and virtualized environments. DevOps can automate data center deployments with an infrastructure-as-code design for frictionless for data consumption. Organizations will be able to develop and deploy to production faster by leveraging simple, flexible, and high-performing infrastructures.

## 1 | Rein in shadow IT and remove complexity

While developers enjoy the freedom and portability of containerized, modern applications, the risk of shadow IT instances can challenge existing IT best practices and increase security and compliancy risks. With enterprise solutions built for DevOps, developers can continue to operate without disruption while new best practices and IT strategy can be formulated for these agile applications.

## 2 | Ready and available end to end DevOps solutions

Dell Technologies provides end to end integrated solutions for discovering, protecting, and managing containers with industry-standard APIs. As the cloud-native ecosystem continues to grow, Dell contributes and develops projects through the Cloud Native Computing Foundation (CNCF) and Special Interest Group (SIG) which via [github.com/dell](https://github.com/dell) is a community central to this data-driven, modern application evolution.

## 3 | Provision and manage persistent storage

DevOps teams need a way to interface between the logical volumes presented in modern application environments (Kubernetes / Container Orchestration) and data stores. They can through Container Storage Interface (CSI) plugins. These enable self-service workflows for managing persistent data stores and support IT integration points across modern primary and unstructured storage *including* S3 Object Storage, modern compute, and data protection.

## 4 | Automate persistent storage capabilities

On top of CSI plugins, DevOps teams can incorporate IT best practices and meet regulations with simple and consistent integration and automation for persistent storage with Container Storage Module (CSM) plug-ins. These software modules engineered by Dell provides DevOps teams automation capabilities including data replication across data centers, role-based access control (RBAC) authorization, observability, and resiliency for disaster recovery and avoidance.

## 5 | Protect, backup and restore

Teams can expand their IT practices through discovering and backing up persistent storage with application-aware data protection. They can deploy policy-based protection with enterprise-class capabilities such as replication, retention policy management, tiering to S3-compatible storage, and SLA reporting. They can do this through PowerProtect Data Manager, supporting existing or new data storage. Data Manager is designed for Kubernetes and containers with simple management via GUI, REST API and kubectl management. DevOps can meet RTO/RPO requirements with application consistency for data services including MySQL, MongoDB, Cassandra, and Postgres. Additionally, they can expand the environment flexibility by deploying data protection policies for VMware Tanzu, Red Hat OpenShift, AKS, EKS, and GKE.

## 6 | Reduce application development time

At the edge and on-premises, Dell Technologies can help developers to reduce application development time, create programming models, gain insights, and give teams more time to focus on ingenuity and next level business needs with Streaming Data Platform (SDP). SDP is an enterprise-ready, out-of-the-box Kubernetes software platform and is built to support on-premises and hybrid cloud ecosystems for powerful, scale-out, high-availability. SDP is built on open-source technologies – such as Apache Flink, Spark and Pravega – with connectors to applications such as Boomi and Kafka with accessibility to a large array of capabilities and engines.

## 7 | Ease into implementations

Dell Technologies has created packaged offers and reference architectures designed to ease the implementation of IT infrastructure that supports application modernization. Several choices are available to accelerate and scale DevOps workflows. Our solutions support many of the different Kubernetes distributions for which we have a solution such as Azure AKS, Amazon EKS, Google Anthos, Red Hat OpenShift, VMware Tanzu, and SuSe Rancher. Additionally, IT decision makers can onboard Kubernetes quickly with integrated systems such as VMware Tanzu on APEX Cloud Services, VxBlock or VxRail, as well as Azure Kubernetes Service on Dell EMC integrated system for Microsoft Azure Stack HCI.

## 8 | Integrate and evolve existing virtualization practices

Dell Technologies has worked closely with VMware to deliver solutions and services for VMware Tanzu. VMware has re-architected their vSphere kernel around Kubernetes. It now provides a unified environment that supports both existing VM-based applications and as well as containerized ones. This advantage complements our full portfolio of solutions and incorporates the best of our industry-leading infrastructure with VMware's industry leading software.

## 9 | Secure and encrypt data in-flight

Modern applications are API-driven and generate extensive network traffic, which needs to be encrypted. The Dell Technologies solution for IT operations is with CloudLink, which provides seamless security with powerful policy-based key management. It provides data encryption across bare metal, virtualized, and containerized workloads across public and private clouds, allowing users to secure, control, and monitor Kubernetes containerized applications.

## 10 | Design, and architect with the best

Through Dell Consulting, operators of all types can access expert and advisory support services for [cloud-native apps and DevOps services](#). Their services can enhance the software development processes and guide teams toward transforming into agile, service-driven organizations.



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