

Leverage a kinetic architecture to drive your hybrid cloud strategy

Overview

Traditional infrastructures not designed for modern business and service delivery goals. From “rip-and-replace” upgrades to having to fix resource over-provisioning and stranded capacity, an organization could sometimes end up with a siloed infrastructure, users and data. Furthermore, in order to maximize return on investment for the capital expenditures such as servers, IT administrators had to ensure that their servers would be deployed and provisioned to the fullest extent for the workloads and business applications.

With the advent of cloud and the need for data mobility across the infrastructure, legacy operating models and siloed infrastructures actually hold back the organization from implementing the strategies, resources and tools needed to enable improved results for the business.

Kinetic Architecture drives optimal utilization

In order to address the challenge of data mobility across the organization and ensuring optimal resource loading for workloads, IT administrators have to review the types of workloads which can benefit from infrastructure improvements and cloud deployment as well as support from new and upcoming applications. Traditional workloads can generally be characterized as enterprise applications that support internal operations and business continuity.

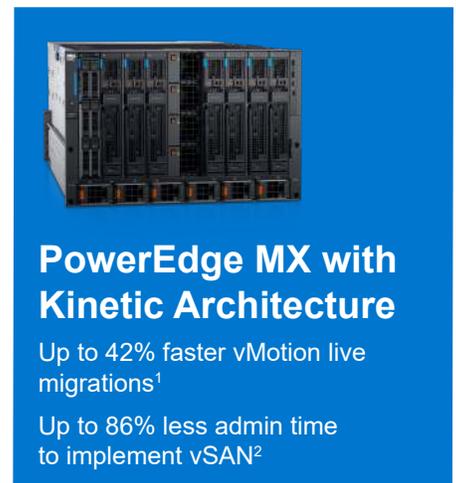
Next-generation or transformational workloads are built to run in software defined and cloud environments. These reflect applications that must continually adapt, scale horizontally and handle unpredictable, non-linear growth patterns. Adopting next-generation workloads on an infrastructure not optimized for virtualization and utilization can actually further increase idle and wasted resources, especially on servers.

Kinetic architecture addresses these challenges by introducing **Composability**: disaggregation of compute, storage and networking fabrics resources into shared pools that can be available for on-demand allocation and provisioning. This is a dynamic IT infrastructure which instantly responds, adapts and evolves with shifting needs, from the datacenter and into the cloud.

The Kinetic architecture powered by Dell EMC PowerEdge MX now consolidates traditional datacenter workloads and private cloud (on – premise) data on a composable platform. The Dell EMC PowerEdge MX is a high performance, modular infrastructure that enables customers to flexibly configure and optimize their IT infrastructure for a wide variety of traditional and emerging workloads, and across multiple deployment models, including data center, SDDC and on-premise cloud.

To summarize, a Kinetic architecture delivers a foundation for hybrid cloud with:

- A flexible infrastructure to meet demanding workload needs
- Agile management and integrations with cloud infrastructure management
- Responsive design with innovative technology and composability for optimal utilization



¹ Principled Technologies report commissioned by Dell EMC, August 2018, “Migrate VMs Faster with a Dell EMC™ PowerEdge™ MX Solution,” comparing networking on Dell EMC PowerEdge MX7000 chassis vs. HPE Synergy and similarly configured using VMware vSphere vMotion. Actual results will vary.

² Principled Technologies Report commissioned by Dell EMC, “Save IT Admin Time with the Dell EMC PowerEdge MX Platform and OpenManage Enterprise,” January 2019, comparing a Dell EMC PowerEdge MX7000 vs. Cisco UCS. Actual results will vary.

Kinetic architecture: connect virtualization to Cloud with an SDDC approach

A hybrid cloud approach helps IT organizations with a strategy that enables data and workload mobility across an infrastructure. VMware has provided a proven solution for businesses to extend their IT transformation from an SDDC datacenter model and into a private cloud, which can then help bridge public cloud workloads, all from a single console. VMware enables customers to build a design their own cloud with the VMware Cloud Foundation™ approach.

VMware Cloud Foundation™ combines VMware's vSphere®, vSAN™ and NSX® into one, and manages them collectively with SDDC Manager. Cloud Foundation provides the connection between your data center infrastructure—your hardware stack—and the public cloud. It can dramatically speed up the journey to a hybrid cloud and accelerates time to market by eliminating complex processes around deployment and application provisioning.

Cloud Foundation on Dell EMC PowerEdge servers can speed your overall IT transformation efforts while also making that process simpler, more agile and efficient, and less costly.

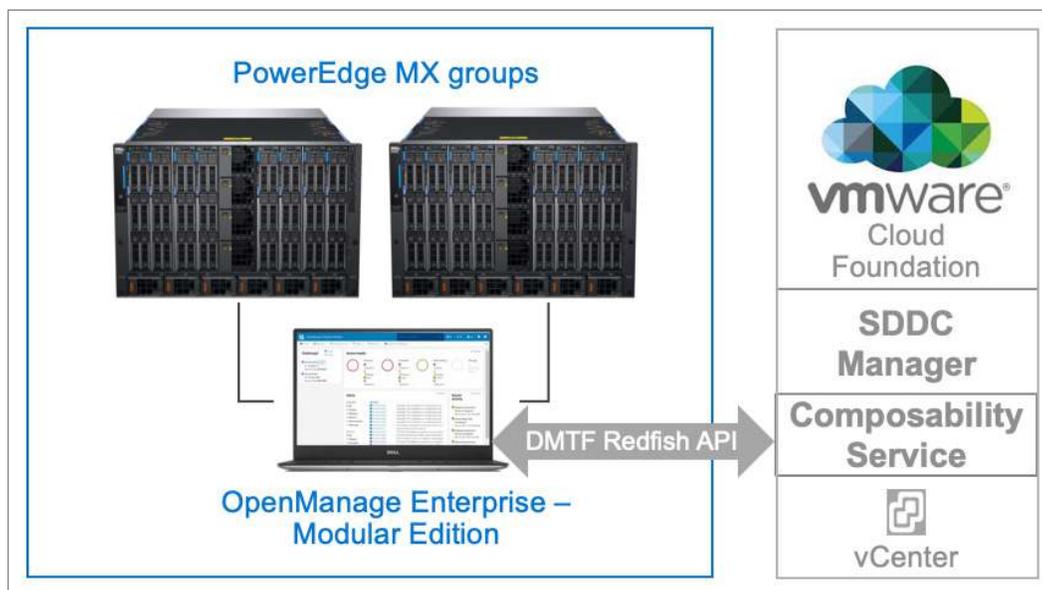
Composability with VMware Cloud Foundation, using Cloud Validated Designs

While developing an on-premise cloud strategy and deployment approach can be challenging, Dell EMC and VMware have worked together to simplify the effort of building your next generation hybrid cloud environment.

Dell Technologies Cloud Validated Designs enable customers to bring cloud to a broader set of workloads that require independent scaling of storage and compute. This new option to consume Dell Technologies Cloud provides deployment guidance for pre-tested Dell EMC storage, compute, and networking infrastructure that's been validated with VMware Cloud Foundation. Using Validated Designs, customers can now support new and legacy workloads that have infrastructure-intensive requirements in the most efficient way possible.

The VMware Cloud Foundation (VCF) approach with the Dell PowerEdge MX7000 is available as a Dell Technologies Cloud Validated Design. This approach is based on the certified PowerEdge MX vSAN ready node and a VCF-specific deployment guide, which provides you the foundation to customize your own infrastructure for your workloads.

The Dell Technologies Cloud Validated Design with PowerEdge MX provides additional benefits: Cloud best-in-breed performance and scale using software-defined composability, enabled by PowerEdge MX servers and OpenManage Enterprise Enterprise-Modular Edition with full-stack VCF automation and lifecycle management.



A Kinetic Infrastructure provides a flexible, composable platform to build hybrid-cloud environments

This enables IT administrators to manage and scale resources dynamically based on demanding workload requirements. Instead of manually allocating resources, customers now experience better drive management through software-defined composability and can rapidly provision storage and assign workloads to individual drives across a large network of grouped and connected chassis.

Chassis

PowerEdge MX7000



As dynamic and innovative as your business, PowerEdge MX kinetic infrastructure bridges traditional, software-defined data centers and now cloud, with unequal flexibility and agility. At the foundation, PowerEdge MX7000 chassis hosts disaggregated blocks of server and storage to create consumable resources on-demand. The 7U modular enclosure has eight slots which hold eight 2S single- or four 4S double-width compute sleds and 12Gbs single-width storage sleds. Up to 10 chassis or 160 servers can be supported in a single group. The Embedded Dell EMC OpenManage Enterprise – Modular Edition delivers the key abilities of OpenManage Enterprise systems management within the PowerEdge MX chassis, and with the Dell Remote Access Controller 9 (iDRAC9), helps monitor, manage, update, troubleshoot and remediate MX servers from any location

Servers

MX740c & MX840c



PowerEdge MX features two server compute sleds. The PowerEdge MX740c provides flexible and dense compute resources for virtualization, collaborative and software-defined workloads in a 2-socket, single-width sled. The PowerEdge MX840c is a scalable, high performance modular server, delivering elastic compute resources for database-driven mission critical applications and performance workloads in a 4-socket, double-width sled. Both compute sleds deliver the flexibility and agility needed in today's demanding, shared-resource environments, whether in datacenter or on-premise cloud.

MX systems management:

OpenManage Enterprise – Modular Edition and OpenManage Integrations

OME-Modular can manage up to 160 servers, or 10 chassis of servers in a single pane interface.

MX customers can manage MX systems either like a rack server (locally or remotely) using the iDRAC9 with Lifecycle Controller or manage the servers and chassis collectively using embedded the OpenManage Enterprise – Modular Edition (OME-Modular) with its easy to use web interface.

OME-Modular can monitor up to 10 MX chassis at a glance, perform one-to-many BIOS and firmware updates, and maintain slot-based server configuration profiles that will update BIOS and firmware when a new server is installed. Each one of these abilities delivers time savings over conventional management and reduces the risk of human-entry errors by automating repetitive tasks. OpenManage Integrations deliver the necessary server lifecycle management for the hypervisor environment of your choice. OpenManage Integrations for VMware vCenter is the perfect choice to allow you to manage the PowerEdge MX Cloud Validated Design, all from within vCenter.



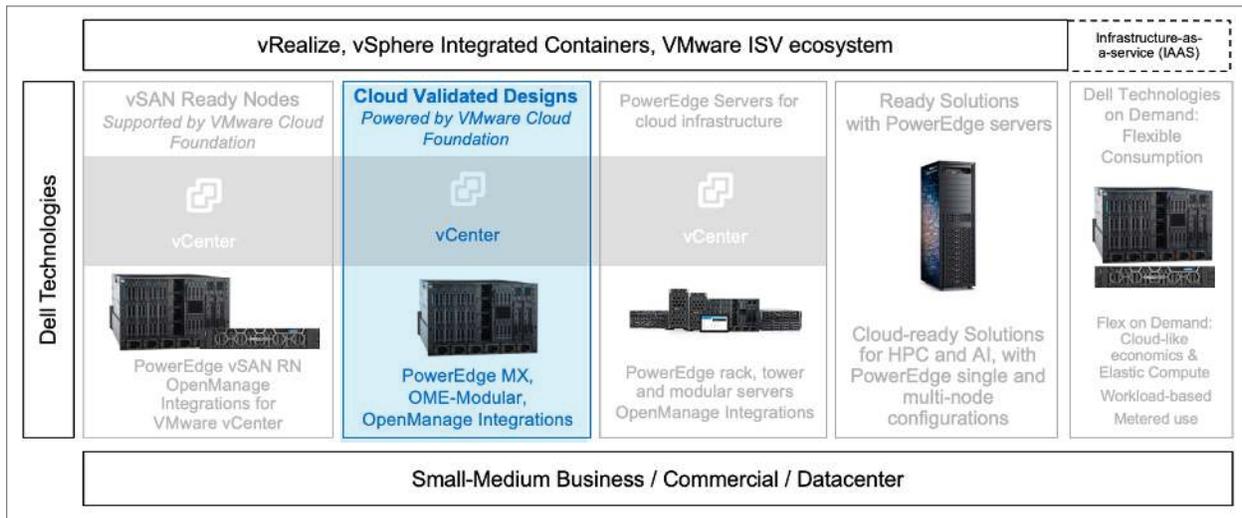
Finally, OpenManage Enterprise and OpenManage Mobile provide remote monitoring and management across MX and PowerEdge servers as well as for Dell EMC storage, networking and up to a total of 8000 devices. To learn more about the entire portfolio of Dell EMC OpenManage tools and technologies, visit Dell.com/OpenManage.

Foundation for a hybrid cloud-ready infrastructure

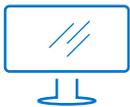
With VMware Cloud Foundation on Dell PowerEdge MX servers, you harness the power of the Kinetic architecture for your cloud strategy to enable better business outcomes. The PowerEdge MX delivers the innovation and flexibility to help build a cloud infrastructure with workload and data mobility.

Dell EMC and VMware deliver a high-performance, automated, and easy-to-manage hybrid cloud based on PowerEdge MX and rack servers and Cloud Foundation.

A Cloud Validated Design can help you kickstart your hybrid cloud strategy with a platform to help you scale virtualization and mobilize your data across your cloud choices and cloud strategy. Drive your hybrid cloud strategy today with a kinetic infrastructure and validated approach to help you transform your business.



Cloud Validated Designs are an essential building block of a Hybrid- and Multi-cloud strategy



Learn more about Dell PowerEdge MX and Cloud Validated Designs



Contact a Dell EMC Expert



View more resources: Compose with MX7000 Solutions with VMware



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