

Lab Report Preview

Dell EMC VxBlock System 1000

Dom Amato, Associate Lab Analyst | Aviv Kaufmann, Senior Lab Analyst

Background

As application requirements expand, upgrading and customizing data centers to keep pace can easily become a laborious and expensive process with little to no guarantee of future-proofing. This rush to upgrade IT environments can lead to inefficient resource management and increased administration requirements. According to ESG research, more than a quarter of organizations indicated that they have a problematic shortage of existing skills in IT architectural planning or server and virtualization administration skills.¹ Traditional converged infrastructure (CI) solutions have proven to greatly simplify IT operations and lower OpEx with point solutions designed to deliver optimal configurations for individual workloads. As IT requirements grow, additional workload-optimized CI systems are added to handle new workload requirements. The operational problem presents itself once again as managing, configuring, scaling, and upgrading multiple converged systems becomes less efficient.

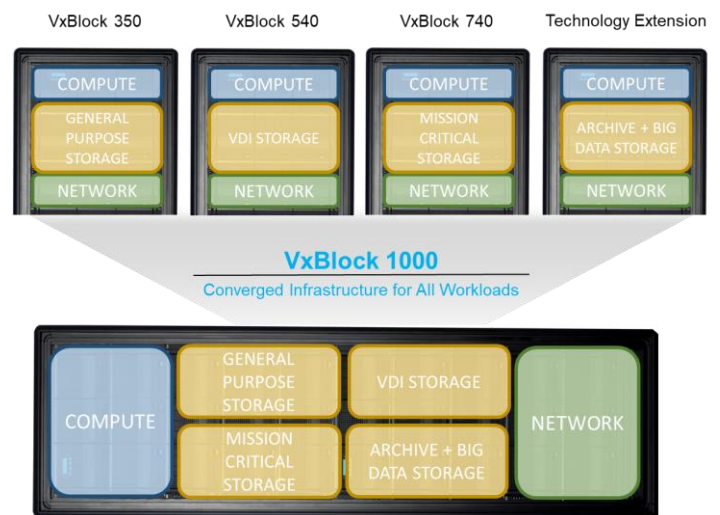
Dell EMC's New VxBlock System 1000

Dell EMC is well known as a pioneer of converged infrastructure, delivering general purpose CI VxBlocks, formerly called VBlocks, as well as models optimized for mission critical workloads, VDI, and big data. Dell EMC's CI portfolio of VxBlock Systems is designed to simplify IT environments by offering integrated compute, storage, networking, and virtualization. VxBlock systems are pre-integrated and pretested, lowering OpEx and downtime while accelerating application development and freeing up IT resources to be used elsewhere.

The new VxBlock System 1000 extends these benefits by giving customers the flexibility to mix and match a broader choice of storage and server options, whereas each previous-generation VxBlock System was based upon a single type of storage and compute optimized for specific classes of workloads (general purpose, mission critical, etc.). The new system's pool of multi-technology resources and higher scalability eliminates the need to purchase multiple CI models configured to satisfy different workload requirements.

In addition to offering a selection of improved hardware capabilities, the VxBlock 1000 resource pool can be flexibly reallocated toward priority workloads as demanded by ever-changing business, operational, performance, and data services requirements. Existing customers who have benefitted greatly from the simplified upgrade process made possible through the Release Certification Matrix (RCM) process for each model of VxBlock will now benefit from the VxBlock 1000's single RCM across all compute and storage types, drastically reducing both the complexity and duration of the upgrade process.

VxBlock 1000 also delivers a smaller physical footprint in the data center, resulting in lower data center and co-location costs, lower power consumption, fewer outages, and a reduction in administration time when compared with older VxBlock Systems and other CI offerings. VxBlock 1000 scales far beyond the limitations of other offerings and is NVMe-ready, ensuring seamless future component upgrades to the next high-performance technology wave.



¹ Source: ESG Master Survey Results, [2018 IT Spending Intentions Research Survey](#), December 2017.

ESG Lab Validation

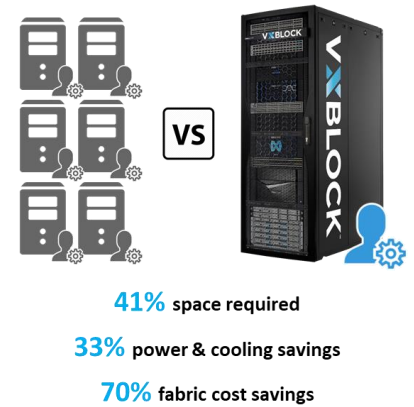
ESG Lab is currently evaluating the benefits that Dell EMC’s VxBlock 1000 delivers to organizations. ESG Lab has reviewed preliminary models of data centers satisfied by a single VxBlock 1000 to provide the workload support of multiple previous-generation VxBlock Systems plus room for further system expansion. ESG reviewed both a new and existing deployment growth scenario with a focus on how VxBlock 1000 can help reduce floor space requirements, power consumption, and administrative time when deploying and updating the systems. ESG plans to release a full detailed validation report in the coming months.

Validation Highlights

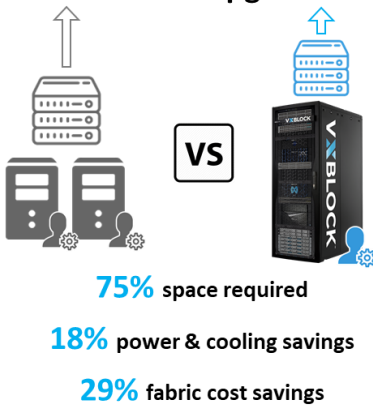
Dell EMC’s VxBlock 1000 provides enhanced agility to IT environments, cutting the time it takes to provision, configure, and update hardware for an IT organization’s dynamically changing workload requirements. ESG validated the expected savings in a series of side-by-side configurations created to satisfy the converged infrastructure requirements of a typical organization.

The first use case demonstrated that VxBlock allows organizations to consolidate systems and deploy less hardware when starting with a completely new IT environment. ESG Lab compared the layout of a traditional converged infrastructure setup using six workload-optimized VxBlock Systems against a single consolidated VxBlock 1000 configuration. After reviewing rack configurations for both options, it was clear that VxBlock 1000 offered several advantages despite holding the same server power and higher storage capacity. The traditional VxBlock System case required a 34-cabinet footprint, while VxBlock 1000 only needed 14—almost 60% less space with greater hardware capability. As a result, power consumption was also much lower. The new VxBlock 1000 configuration drew only 67% of the power required for the six VxBlock configuration, which also included a significant amount of network attached storage for data archiving. Perhaps most importantly, the VxBlock 1000’s consolidated fabric configuration reduced the fabric-related costs by almost three-quarters, with available unused capacity remaining to support future upgrades and widen the expected savings gap. Reduction in time to upgrade the single system could save as much as 75% of the upgrade time for the equivalent previous-generation systems.

New Deployment



54 Server Upgrade



ESG Lab also examined some of the additional benefits offered by an existing VxBlock 1000 when adding hardware to upgrade the total system capabilities. This use case first compared the hardware requirements between two existing VxBlock Systems with a single, consolidated VxBlock 1000, and then assumed that a total of 54 additional servers were added to the existing environment to improve the performance of the existing workloads. The VxBlock 1000 reduced the total number of cabinets from 12 to 9 while enabling fabric-related and power cost savings of 29% and 18%, respectively. ESG also validated and compared the administrative time savings required to update the systems in this scenario. The VxBlock would be expected to require only 78% of the time to upgrade the single system versus the two VxBlock Systems. ESG plans to investigate and validate this point further in the full report.



The Bigger Truth

Organizations require more than ever a transformation to agile IT environments that are capable of handling the ever-changing needs of the applications and associated data. A shortage of skills in IT administration and data center planning put even more stress on technology that too often struggles to keep pace with workload demand. Even modern CI offerings must be purchased with the requirements of a single class of workloads in mind, and can quickly become obsolete.

Dell EMC's VxBlock 1000 solves many of these issues by consolidating storage and server options into a pool of resources that customers can dynamically tailor to their needs while greatly simplifying the upgrade process.

ESG Lab validated that Dell EMC's VxBlock 1000 requires a smaller physical footprint in a data center and takes less time to upgrade than traditional methods, providing cost savings and reducing the administrative energy required to keep everything running. These factors make VxBlock 1000 a prime choice for organizations seeking both net new environments and upgrades for existing ones, all while providing superior resource allocation and ease of use rarely offered by traditional offerings.

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The goal of ESG Validation reports is to educate IT professionals about information technology solutions for companies of all types and sizes. ESG Validation reports are not meant to replace the evaluation process that should be conducted before making purchasing decisions, but rather to provide insight into these emerging technologies. Our objectives are to explore some of the more valuable features and functions of IT solutions, show how they can be used to solve real customer problems, and identify any areas needing improvement. The ESG Validation Team's expert third-party perspective is based on our own hands-on testing as well as on interviews with customers who use these products in production environments.