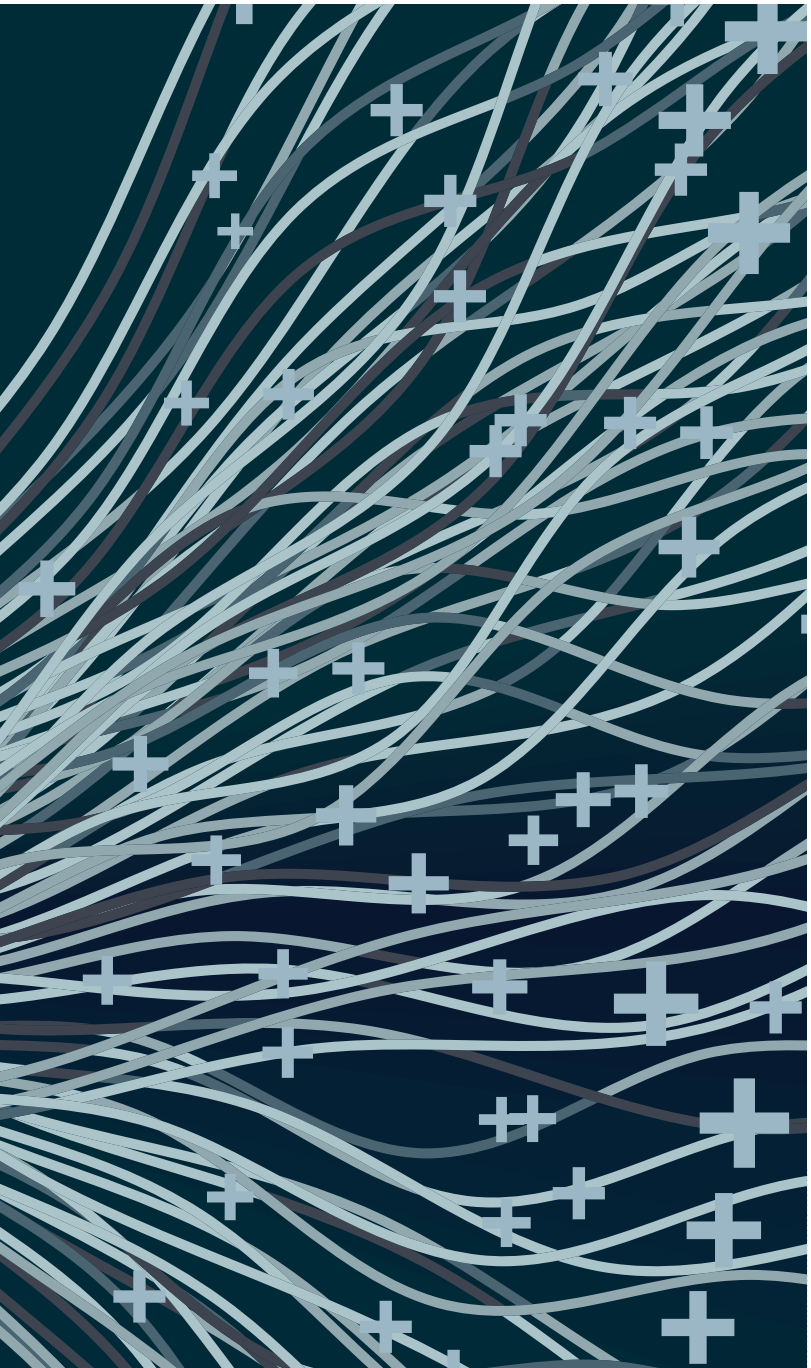

E-Guide

SUPPORT WORKLOAD OPTIMIZATION WITH HYPER-CONVERGED INFRASTRUCTURE

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MERLIN ENTERTAINMENTS, A leader in theme parks, opted out of their servers and storage architectures in exchange for Simplivity's hyper-converged infrastructure. In this expert guide, find out more about why Merlin Entertainments decided to dump their previous infrastructures and migrate to the simpler, "plug-and-play" infrastructure.

THEME PARK COMPANY RIDES WITH SIMPLIVITY HYPER-CONVERGED

Merlin Entertainments, which operates a range of theme parks and attractions such as Legoland and Madame Tussauds, has ditched traditional server and storage architecture and opted for hyper-converged infrastructure from Simplivity.

The company runs 124 attractions in 25 countries. In the UK, its most famous are Alton Towers, Thorpe Park and Legoland Windsor.

Each site is dependent on local IT systems for revenue-generating operations, while the company also has three datacentres, in Hong Kong, Slough (UK) and Dallas (US).

Having grown rapidly over the previous decade, often by acquisition, the company had accumulated a large variety of IT systems at its sites. This had led to complexity and management headaches, according to Merlin's global infrastructure architect, Sean Channon.

"We had no standardisation. Sites could be totally physical, or virtualised with VMware and Hyper-V. With the company growing, things got exponentially

worse with the addition of non-standard equipment," said Channon.

By the beginning of 2015, it was obvious that these challenges were limiting Merlin's ability to quickly respond to new opportunities at its sites, so it decided to deploy a standard IT architecture.

Channon said it considered new servers and shared storage, but came to the conclusion that it was not a lot different from what it had already and would not reduce complexity.

Merlin eventually opted for hyper-converged infrastructure from Simplivity.

Hyper-converged products combine compute and storage in one box with virtualisation capability. They have emerged in recent years as competition to discrete server and storage products, with key suppliers including Nutanix, Scale Computing, Simplivity and VMware's EVO:Rail.

Channon looked at EVO:Rail-based products, but didn't consider them to have the simplicity offered by Simplivity.

Simplivity deploys as a virtual machine on commodity x86 server hardware, either as an OmniCube appliance, or as OmniStack software pre-installed on approved server hardware. The hardware supports VMware, Hyper-V and KVM hypervisors.

Merlin deployed Simplivity with VMware embedded in two configurations. For its smaller attractions – such as Madame Tussauds and The Dungeons – it deployed a single Simplivity OmniCube with around 10 virtual machines and 5TB of storage.

At the larger sites, such as the Legolands and those with hotels, it deployed a cluster of two OmniCubes that can handle around 20 to 30 virtual machines (VMs). Sites back up locally and then copy data to the company's main datacentres.

The Simplivity hardware is mostly spinning disk with a small flash storage component of 10-20% of capacity.

Key benefits for Merlin have been a huge reduction in management overhead and also in physical footprint, said Channon.

"At one site, Legoland California, we've reduced the physical footprint by 76%," he said. "From the point of view of daily operations, things are a lot more simple. There is less complexity in what the administrators have to do, so they can become more productive. Also, with data protection built in, there is no third-party product to think about."

SIMPLIVITY ADDS HYPER-V SUPPORT TO HYPER-CONVERGED PRODUCTS

Hyper-converged storage maker SimpliVity has announced it will natively support the Hyper-V hypervisor when Microsoft makes Windows Server 2016 generally available.

SimpliVity also announced that in an upgrade to its OmniStack software – to version 3.5 – it has added the ability to optimise placement of workloads across clusters of its hyper-converged products.

Microsoft Hyper-V support will exist via native Microsoft Server 2016 features and management tools, just as currently SimpliVity runs VMware ESXi natively in its products, with no traditional storage formats such as LUNs, to deal with.

SimpliVity was a pioneer – along with Nutanix – of so-called hyper-converged infrastructure, which combines compute, storage and networking in one box. This is a trend in part inspired by the modular hyperscale architectures pioneered by web giants Google, Facebook, et al.

It deploys its software as a virtual machine on VMware on commodity x86

server hardware, either as OmniCube appliances from SimpliVity, or as OmniStack software pre-installed on approved server hardware.

SimpliVity also supports the KVM hypervisor on limited release. This, however, is aimed at a different market segment to the VMware and planned Hyper-V deployments, said SimpliVity solutions architect director, Stuart Gilks.

"Our small and medium-sized customers are where VMware and Hyper-V dominate," he said. "KVM has other strengths and appeals, especially to organisations with large engineering capabilities and service providers looking to provide support for OpenStack environments."

Meanwhile, version 3.5 of OmniStack has introduced workload optimisation. For now, this will make use of VMware's Distributed Resource Scheduler (DRS) and will allow customers to balance workloads and data according to CPU, memory, storage and data location across multiple instances of SimpliVity deployments.

Gilks said typical scenarios would be where new workloads are created or where customers want to move existing workloads around.

DRS automatically generates recommendations for workload placement.

Users can set the feature to automatically carry out optimisation or to wait for administrators to decide on recommendations.

Currently, this will only work with VMware-based deployments, but, according to Gilks, the strategic aim is to provide equivalent capability where the hypervisors support it. “We will add functionality via a phased approach with more details when Windows Server 2016 is generally available,” he added.

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