SUNLIGHT

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Case Study

InfraSpace

InfraSpace Cuts the Infrastructure Costs of Running AI and Big Data Workloads by 50-75%

Focus Areas

- AI/Machine Learning
- Big Data
- Analytics
- Devops
- Cloud enablement
- IOT

Industries

- Retail
- Healthcare
- Manufacturing
- Mining
- Sport and events

About InfraSpace

InfraSpace is a US-based company, providing digital transformation consulting services to companies in retail, healthcare, manufacturing, mining, sport and events across the US and India. It covers both commercial and home-grown applications - including Splunk, iEventGenie and nopCommerce. InfraSpace offers a range of services - including Big Data and AI consulting, devops and cloud enablement, application development, test automation and IOT. InfraSpace is a Sunlight partner.

Industry
Digital Transformation Consulting Services

Focusing on high performance workloads

InfraSpace specialises in products and services to enable high performance workloads – which are an important and fast growing niche. These unique capabilities are enabling the company to win a significant market share in the Big Data and AI and machine learning spaces.

InfraSpace previously hosted all of their AI and Big Data workloads in AWS and Azure, but the cost profile was far too high for the performance profile they required. They looked at ways to reduce costs and concluded that building their own datacenters was the best option. 2 years later, all of their workloads have been migrated to their own infrastructure. Initially they used VMware as their virtualisation technology of choice, but found that not only were they getting a fraction of the performance they expected when deployed on modern hardware – such as NVMe drives and processors using NUMA memory. Also, management of the VMware estate was getting more and more onerous. The focus on demanding workloads together with VMware's performance constraints meant a constant need to buy more servers, memory and storage. Tasks like upgrading from vSphere 5.5 to 6.5 were a major project that detracted from their ability to service customers.

In addition – InfraSpace had started to offer rural 'microdatacenters' in the Indian market that could be deployed near to smaller centres of population – but by their nature required extremely low power consumption without compromising performance.

A Hypervisor built for performance

InfraSpace evaluated the Hyperconverged Computing Infrastructure (HCI) solutions on the market to find a virtualisation product that was able to access the performance of new technologies such as NVMe storage, could scale out easily and could operate on resource-constrained processors. Sunlight was the natural choice – allowing them to

- Expand seamlessly – adding nodes to a cluster is 'plug-and-play'.
- Support NVMe at native performance – unlocking high performance for IO intensive workloads
- Reduce power consumption due to increased density – reducing costs and making Microdatacenters possible
- Utilise a Pay-as-you-go model for Sunlight hardware appliances – eliminating the up-front costs of building a dedicated infrastructure

> *Sunlight's ability to make over 1M IOPS available to a single VM instance with no special configuration is just unheard of*

Chandrasekar Umathursappan, **Founder & CEO of InfraSpace**

Slashing the Build Time of Kubernetes Clusters

There are two key issues with Kubernetes: first – how long it takes to build the cluster; and second – how simple it is to run the containers. Kubernetes is a very complicated product to deploy in AWS or Azure, so if you only need the cluster for a couple of days, it isn't a very cost effective option. Previously it would take 40 minutes to build a cluster in AWS, however with Sunlight, that build time has come down to just 10 minutes.

> *If we need to on-board a customer, I no longer have to do it way ahead of time. So from a devops perspective – if I want to build a new environment - we can spin up the environment fast, do the tests and shut it down. For customers using hourly billing in the cloud, they can save a lot of money because of the reduction in deployment time.*

Chandrasekar Umathursappan, **Founder & CEO of InfraSpace**

Finally, because of the performance gains of Sunlight, Kubernetes clusters can be deployed more densely – reducing overall hardware spend.

Benefit
75% reduction in build time

Halving the Infrastructure Spend for Splunk

Splunk is a data analytics platform which processes huge volumes of data on a continuous basis. InfraSpace estimate that 7-8 day data retention of IT data generates around 100Gb of data. To process that, a typical Splunk cluster on VMware requires 7-8 Splunk nodes. With Sunlight – due to improvement in IOPS and increased memory bandwidth – that server requirement is now reduced by 50%. This represents not just a basic infrastructure saving, but more data can be processed more quickly – improving the user experience when generating reports.

> *Fundamentally, Splunk needs good IOPS. Splunk made lots of improvements in multi-threading in the product - which helps with performance a lot – but at some point it has to hit the disk. 80,000 IOPS vs 1M IOPS per VM makes a significant difference in performance*

Chandrasekar Umathursappan, **Founder & CEO of InfraSpace**

Benefit
50% reduction in servers

Enabling the Microdatacenter

InfraSpace has launched a Microdatacenter concept In India – enabling them to offer the same services as AWS, at 1/10 of the cost. This enables them to offer rural services with extremely high performance at very low cost. Sunlight is the perfect platform for this use case, as it can run on Intel Xeon-D processors as well as ARM.

> *For our rural datacenters – the power:performance ratio is vital – we need to keep power low without compromising performance. Sunlight allows us to pack the microdatacenter denser - providing more resources into the same footprint.*

Chandrasekar Umathursappan, **Founder & CEO of InfraSpace**

Supporting Remote Workers While Protecting Intellectual Property with VDI

Virtual desktops (VDI) are a great way to manage a remote workforce. With VDI – it is possible to give employees or contractors full access to corporate resources and lock down all intellectual property, leaving no footprint outside of the datacenter. With laptops – even locking down USB ports etc... doesn't provide the security corporates require. However, VDI often doesn't perform as users want it to - especially for developers.

> *With Sunlight we can deliver desktops at a level of performance that Citrix isn't capable of. Developers demand high performance desktops and with Sunlight – they get that performance. If a client wants to bring in 100 desktops – now we can procure 2-3 high end Bobcat Peak servers and provide those 100 desktops in no time. This is way less capital intensive than other solutions, and the user experience is significantly better.*

Chandrasekar Umathursappan, **Founder & CEO of InfraSpace**

For more information,
contact your reseller or visit
https://www.sunlight.io/partners/

Conclusion

Partnering with Sunlight as the supplier of virtualisation technology for demanding workloads has enabled InfraSpace to save over 50% on hardware infrastructure and improve workload performance by 75% - leading to better margins and improved customer satisfaction. Deploying Sunlight in a hyperconverged mode has also helped reduce management costs as separate skillsets are not required to install, configure and integrate hypervisor, networking and storage, as is often the case with legacy hypervisors, and scaling out has become a simple task.

Sunlight's ability to deliver bare metal performance for high performance technology such as NVMe storage and NUMA memory, whilst minimising network latency makes it the best choice for the demanding workloads InfraSpace deploys for its customers.

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Chandrasekar Umathursappan, **Founder & CEO of InfraSpace**

About

Sunlight is bringing new products to the market that help to redefine what high performance cloud and virtualisation should really be about. Having operated in stealth mode for a number of years, Sunlight is now transforming the market with a suite of products suited to on-premise enterprise infrastructure, in the cloud via AWS baremetal services and at the edge for remote resource constrained environments.

Backed by significant private equity investment, Sunlight.io is headquartered in Cambridge, UK with group companies around the world, including the US. The Sunlight leadership team brings a wealth of knowledge and experience from enterprise application virtualisation, cloud services, networking and embedded systems development. The company is further backed by a world class team of engineers, with expertise in low level hardware design, firmware/drivers, hypervisors, storage and network IO, cloud management/orchestration and web UI technologies.

The Sunlight Enterprise Software Platform is a hyper-converged infrastructure system optimized to provide the highest performance IO for both networking and storage traffic to and from tenant Virtual Machines (VMs). It is built on top of the Sunlight NexVisor next generation hypervisor stack providing a whole new paradigm in virtual IO performance.

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