DataCore™ SOFTWARE

Grundon Waste Management reclaims control in managing their data, performance and application response times using DataCore's software-defined storage

SANsymphony™ software usage optimises and stabilises data infrastructure

GRUNDON

About Grundon

Founded in 1929, Grundon Waste Management Ltd. has successfully established a reputation for professional waste recycling and is acknowledged to be in the vanguard of best environmental practice and innovation for waste management.

www.grundon.com

Services provided include waste collection, recycling, incineration and the safe management disposal of clinical and hazardous waste products. Success and ongoing long-term growth are attributed to excellent customer service, environmental integrity and community education. Providing ongoing excellence in customer service relies on uninterrupted access to critical applications and essential company data, which today is facilitated by a progressive, secure, virtualised IT infrastructure. The company employs over 700 staff and has an annual turnover of around £100 million, making it the UK's largest privately owned waste management company. Managing Grundon's IT infrastructure is Ross Drake, Head of ICT, responsible for 7 major data centre sites each interconnected by high-speed 1 Gb/s fibre link, with the primary data centre located in Benson, Oxfordshire. The team also supports numerous regional branch operations located throughout the UK. Ross reflects back five years to his arrival at Grundon: *"Then, the first priority in our IT estate was to consolidate and manage our data sets by implementing a structured process and delivery plan. Had we not embarked on this plan, then the growth of unstructured data would have challenged both the scalability and stability of our entire virtualised infrastructure."*

Working closely with DataCore Gold Partner, Park Place Technologies (formerly NCE Group) , and with data sets of 250TB burgeoning 20% year over year, ICT went back to the drawing board to implement a detailed data management strategy facilitated through software-defined storage to provide performance, durability and high availability. With an environment of 48 physical servers and 16 physical vSphere ESX hosts running 22 virtual machines, Ross knew that his first process should be to create a stable, managed environment for data to reside within. Ross advocated this holistic approach in the knowledge that if the data storage was managed correctly, then Grundon would benefit from a more effective, scalable VMware environment from which to migrate and provision new virtual machines (VMs). To achieve this, Ross upgraded his environment to DataCore's SANsymphony software solution, running on HP 9 Gen servers together with Dot Hill SAS data storage arrays using an upgraded QLogic networking fabric.

DataCore SANsymphony Deployment Advantages- More Control and Powerful Automation

Park Place remained key advisors in the planning and implementation. Once installed, DataCore's SANsymphony software quickly began to reap management rewards in real-time, offering a granular window and management capabilities across Grundon's entire storage estate of multiple Direct Attached Storage devices and arrays. To achieve the required managed state outlined in the data management strategy, automated storage tiering (Auto-Tiering) was the first DataCore capability to be deployed at Grundon. DataCore's Auto-Tiering function used the inbuilt intelligent heat-mapping feature to provide a configured view of system behaviour and performance allocation of data.

Using this mapping, SANsymphony then automatically and systematically began the process of tiering data according to real-time usage. The 'hottest' data identified was automatically tiered towards Grundon's fastest storage assets, (higher speed SAS arrays and towards Flash / SSD devices as they are introduced) with less-used data allocated to older and slower storage arrays, speeding performance for frequently accessed data sets and applications and utilising the most cost-effective storage tier.

Thin-provisioning, or in Ross' words, *"absolutely allocating just the required exact amount of disk"* formed the second part of the Grundon install. Decreasing waste is a key to Grundon's core business. ICT were equally cognisant that up-front disk procurement based on assumptions about disk required had historically led to over-allocation. Deployment of thin-provisioning immediately alleviated this overhead. Instead, thin-provisioning created virtual volumes from Grundon's shared storage pool to dynamically allocate more disk space – as and when required. Given this automatic availability of disk, I/O intensive applications running at intensive workload times - such as Microsoft Exchange Server, Microsoft SQL Server and Microsoft Dynamics NAV enterprise resource planning software (running in one Grundon division) - are supplied with I/O sourced from pools of unused disk, previously lying idle. If the system requires greater capacity, SANsymphony notifies the administrator that it's time to add capacity.

Indeed, by using SANsymphony in a separated dual mirrored configuration with automated failover and failback at the Benson facility, the Grundon infrastructure continues to offer assured availability, with the software platform shielding applications from any failures at the storage device layer. This helps with planned maintenance and migrations. Today, provisioning new VMs and applying updates and patches continues seamlessly in the background with no downtime of services for users. ICT simply work on one half of the mirror with the other half automatically taking over without disrupting applications.

When the affected mirror is re-instated, the mirrored pairs are automatically resynchronized, the original paths are restored, and the normal dual node redundancy is automatically reapplied without ICT intervention. Full disaster recovery is offered at the Grundon Ewelme facility, some two miles away from Benson. Here, primary data is asynchronously replicated, so that in the event of a significant incident at Benson, Grundon have added assurance that the entire virtual estate can be resurrected within seconds.

> "Gaining control of our storage layer has had profound ramifications across the entire estate. We knew having used DataCore's entry-level solutions in the past that we would continue to reap powerful data protection and availability, but it wasn't until that degree of management control was deployed within the SANsymphony platform that we fully appreciated the management fine-tuning capabilities."
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> - Ross Drake
> Head of ICT
> Grundon Waste
> Management Ltd.

"Having used DataCore's SANsymphony solution across five years, we have established a stable, optimised infrastructure that responds to the challenges of our virtualisation journey. Our primary objective - to have full control the storage layer to power the entire estate - has materialised and we now have the required flexibility, stability, performance and manageability to assure us for years to come."

- Ross Drake
Head of ICT
Grundon Waste Management Ltd.

Better diagnosis of disk behaviours also empowers Grundon to spot issues before they occur. Given that SANsymphony initially provisioned the disk, any latency issues are diagnosed and highlighted far quicker than through manual monitoring. Using the diagnosis, ICT can quickly determine whether any slow-down is attributable to disk issues or application issues. The software highlights areas where IOPS are bottlenecked to allow ICT resolution before users notice a decline in application performance.

About DataCore:

DataCore, the Data Infrastructure Software company, is the leading provider of Software-Defined Storage and Adaptive Parallel I/O Software – harnessing today's powerful and cost-efficient server platforms with Parallel I/O to overcome the IT industry's biggest problem, the I/O bottleneck, in order to deliver unsurpassed performance, hyper-consolidation efficiencies and cost savings. The company's comprehensive and flexible storage virtualization and hyper-converged virtual SAN solutions free users from the pain of labor-intensive storage management and provide true independence from solutions that cannot offer a hardware agnostic architecture. DataCore's Software-Defined and Parallel I/O powered platforms revolutionize data infrastructure and serve as the cornerstone of the next-generation, software-defined data center – delivering greater value, industry-best performance, availability and simplicity. Visit www.datacore.com or call (877) 780-5111 for more information.

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