Nominee: **Quorn Foods (Marlow Foods)/ DataCore**

Supporting Vendor: **DataCore**

Nomination title: **Quorn Foods announces "5 Nines" Availability and improved SAP ERP productivity with DataCore's SANsymphony-V and Total Virtualised Infrastructure Overhaul:**

Leading food brand optimises Tier 1 applications; enables Information Lifecycle Management via Auto Tiering and shores up the entire Virtualised Estate.

Quorn Foods have adopted their SANsymphony-V software to achieve High Availability; turbo charged application performance and have engaged intelligent Information Lifecycle Management (ILM) data flow with structured Auto Tiering.

Marlow Foods, better known as the owner of the Quorn brand, offers quality low fat, meat free food products to the discerning, health conscious customer. Employing 600 across three UK sites, Quorn's Head of IT is Fred Holmes. Back in 2011 when sold from a large parent company, Quorn had the opportunity to remap the entire existing physical server infrastructure which was rapidly falling outside of warranty. Fred notes:-

"This was a three phrase project and had to be classified as a major systems overhaul that we were embarking on. In Phase 1, DataCore's SANsymphony-V enabled smooth migration within a two-week period and dramatically increased IOPS, even with the high burden that virtual servers place when they are delivering thin client capabilities".

Phase 1: Server side Virtualisation Progresses into Greenfield Site with DataCore providing the centralised storage and 99.999% reliability:

They consulted their trusted IT partner and DataCore gold partner, Waterstons, to assist with the major infrastructure overhaul. A greenfield site for virtualisation, Fred and the assigned Waterstons project team, provided compelling financial analysis showing dramatic consolidation and resource savings to boot. A working proof of concept was deployed to substantiate findings and test that a Microsoft Remote Desktop Services (RDS) farm could support all applications for test user group, and to prove the benefits of server virtualization.

Two successful months later, the project team implemented full server side virtualisation with three additional R710 hosts, all Brocade Fibre Channel attached to a storage area network (SAN) to support the full VMware vSphere Enterprise feature set. In total 30 workloads were virtualised into the new environment to allow older physical servers to be retired. From the Desktop perspective, a new RDS farm replaced 400 traditional desktops with thin client capabilities. DataCore's SANsymphony-V solution provided the essential cost-effective centralised storage running across two Dell T710 commodity servers. DataCore's storage hypervisor provided one general purpose synchronously mirrored SAN pool of 7TB usable (across a total of 48 10k SAS spindles in MD1220 SAS-attached storage shelves) to provide 99.999% reliability. The project team knew that the success of any robust, responsive VMware environment hinges on the abilities and performance of the storage infrastructure that sits beneath. This was especially true in Quorn's highly virtualised

infrastructure with users interacting directly with virtual RDS Session Hosts. From a business user perception, the virtualised estate provided them with a turbocharged world.

Phase II – taking Business Critical ERP into the Virtual World and using DataCore to reduce data mining times from 20 minutes to 20 seconds:

Phase II covered virtualisation of SAP Enterprise Resource Planning for financial, HR, accounts and sales platforms. With around 8,500 outlets that stock the Quorn brand across the UK alone, Marlow Foods have an extremely high dependency on their SAP ERP servers to drive critical business advantages across all departments. The challenge was to integrate the current SAP physical servers into the virtualised environment, whilst maintaining their 99.999% reliability and not affecting existing virtual machines reliant on the SAN. To address this challenge, the project team added another R710 host to the cluster, and a further 4TB of usable synchronously mirrored storage within a new storage pool dedicated entirely to SAP (across a further 48 10k SAS spindles) and began the process to rebuild their SAP servers into the virtual infrastructure. This meant transitioning huge databases from the old physical environment. Proof would come at the end of the month, when database queries were traditionally the highest and performance expectations were unmet with erratic response times.

In fact, the data mining queries were returned within 20 seconds, compared to 20 minutes in the previous physical environment. This is in no small part down to the way that DataCore's SANsymphony-V leverages disk resources, assigning I/O tasks to very fast server RAM and CPU to accelerate throughput and to speed up response when reading and writing to disk. And with the wholly mirrored configuration, continuous availability is afforded.

"Like all things in IT, dramatic improvements to the infrastructure remain invisible to the user who only notices when things go wrong. But in this instance, no one could fail to notice the dramatic leaps in performance that was now afforded." Fred notes.

Phase III: Enhancing the Virtualised Estate with Auto-Tiering:

With everything virtualised, Fred and the team gave themselves six months to reflect and monitor the new infrastructure before suggesting additional enhancements. What Fred suspected was that he could also achieve greater intelligence from the SAN itself. Simon Birbeck, Waterstons, one of the U.K.'s only DataCore Master Certified Installation Engineers, designed a performance enhancing model to automatically migrate data blocks to the most appropriate class of storage within the estate. Thinly provisioned SAN capacity was at around 80% utilization, but for 2013 planning Fred and the Waterstons team had allocated a 20% year-on-year growth, thereby potentially stretching utilisation to the maximum by the end of the year. Simon recommended switching to a three tier SAN design to facilitate the best cascading practices of Information Lifecycle Management (ILM).

A red top tier comprised a new layer of SSD flash storage, designed to be always full and utilized by the most frequently read blocks for extremely fast response. A pre-existing amber mid-tier caters for the average use data blocks served by commodity 10k SAS drives. Sitting beneath is a blue tier as the 'catch all' layer for the least frequently accessed data, maintained on low cost, high capacity 7.2k SAS spindles.

Fred summarises*, "What Waterstons recommended was an intelligent usable form of ILM with DataCore's SANsymphony-V at the front-end making the intelligent decision as to which blocks should be allocated where."*

Indeed SANsymphony-V has provided both strong reporting and accurate planning for data growth. Built-in diagnostics help to pro-actively identify when a problem is manifesting, changing the management role from reactive to proactive/intelligent. For the future, Marlow Foods will look to expand on the high availability/business continuity environment afforded by SANsymphony-V by adding a further asynchronous replica at another site to further protect the SAP ERP environment. The scalability of SANsymphony-V brings a new level of comfort not possible with other forms of storage.

Fred takes the final words: *"DataCore's SANsymphony-V now reliably underpins the entire estate. From a transformation perspective we have new levels of availability and enhanced decision making for both IT and the users."*

Why nominee should win:

1. Phase 1: Server side Virtualisation Progresses into Greenfield Site with DataCore providing the centralised storage and 99.999% reliability:

2. Phase II covered virtualisation of SAP Enterprise Resource Planning for financial, HR, accounts and sales platforms with a dramatic increase in performance of these business critical organisations.

3. Phase III: Enhancing the Virtualised Estate with Auto-Tiering: