

## PWS Distributors

Leading Online Kitchen Suppliers to the Trade, cook up faster performance and rapid response times from their ERP and SQL database systems. Install of DataCore SANsymphony™ Software-Defined Storage and Flash by Waterstons facilitates additional e-commerce sales and employee productivity gains.



PWS



PWS Distributors are one of the UK's leading designers and suppliers of quality kitchen components and work surfaces to retailers and installers, offering over 8000 stock items either on the phone through Customer Services, or via their e-commerce site which accounts for more than 20% of business. From their large design centre in Co. Durham the company thrives on providing tailored customer service but in the background major processing issues were restricting the growth of the business and orders. Problems first showed within the ordering cycle when new items were added to an existing order, or when orders were changed in the ERP (Enterprise Resource Planning) system.

[www.waterstons.com](http://www.waterstons.com)  
[www.pws.co.uk](http://www.pws.co.uk)

### Challenge

PWS were aware that providing an effective e-commerce experience with lightning fast transactions was a critical requirement for future growth. Similar to the majority of UK e-commerce traders, behind their ERP website sit a backend Microsoft SQL Server databases that dynamically check stock levels as products are added to a basket. In fact with PWS' infrastructure, each time a product is added to an order, over 400 SQL commands are triggered (200 reads, 200 insert/update/deletes) and fired across multiple tables and databases. Requiring an increased online presence and needing to accommodate an expanding online catalogue, the pressure to handle workloads was especially notable at peak transaction times when performance bottlenecks emerged in the server infrastructure which was failing to deliver.

Andrew Buckingham, IT Manager, PWS notes: *"The statistics made grim reading when our e-commerce platform was tracking an average product add delay of over 1400ms. This was simply unacceptable."*

Ramifications for the I/O hungry SQL system were wide reaching. Making modifications to the system by adding fields was so intensive that the process could only be scheduled to run late at night, when online trading was minimal. Management reporting on sales was also slow. Running turnover and best-selling line reports from previous transactions could take up to 30 minutes to process. For internal data processing, PWS faced additional pressures. Processing of invoicing data again was scheduled overnight, but was still taking over 2 hours to complete. Across the company, employee productivity was being eroded as staff waited for the system to catch up.

### Solution

PWS contacted their trusted IT provider and DataCore Gold Partner, Waterstons, for advice on optimisation without re-engineering the whole ERP infrastructure. Simon Birbeck, Executive Consultant, Waterstons, recommended the install of the latest version of DataCore's SANsymphony platform together with affordable Micron P420 PCI-e flash cards that would facilitate a complete transformation of their e-commerce business, with maximum performance enhancement and provide continuous availability to boot. Simon summarises.

*"PWS were looking for fast transaction enablement and we could identify the weak points when the whole system was being throttled. As it turns out, what we achieved was an entire transformation simply by addressing throughput and I/O latency."*

Running in a dual node environment with synchronous mirroring between a pair of server rooms and automated failover, the latest version of SANsymphony was installed on two Dell T620 rackmount x86 servers using PCI-e flash for hot data, and commodity disk for less frequently accessed blocks. This combination was expected to provide unprecedented performance acceleration to address bottlenecks, handling SQL back-end read and writes with ease, driving DataCore Parallel I/O with the E5-2630 storage server CPU and leveraging adaptive caching technology against generous DDR RAM. Application performance was boosted further still by the Micron Flash, fulfilling requests at lightning speeds.

## Value

The average duration and variation in adding products to an e-commerce order has reduced dramatically. Now, orders are fast and efficient, with the average e-commerce delay more than 14 times faster on the optimised system.

Graph shows the historical average ecommerce delay for PWS (pre and post install)

Similarly on-site Customer Services efficiency has been bolstered, with an active working day saving of over 2% for every representative waiting for ERP system responses, and users no longer have to wait for the system to catch up with their input.

Graph shows the user wait time for Customer Services as a percentage of their day (pre and post install)

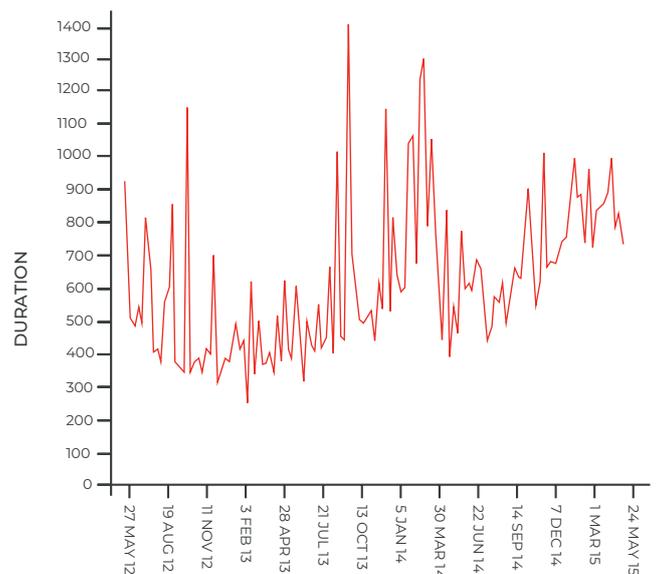
Making modifications and additions to the system on the fly is also now possible. Previously accomplished using late night changes while utilisation was low, adding fields and modifying SQL under the optimised system can now be carried out even when the system is in use at peak trading times.

Indeed data processing operations have seen dramatic gains across the board. Nightly invoice processing has reduced from 2 hours to 20 minutes. Daily management reporting on best-selling lines used to take 30 minutes, but now reports are provided in an incredible 10 seconds. Other reports have also been impacted. An aggregated customer statistics query running millions of SQL executions used to take over 24 hours, even in low trading conditions. With the DataCore/Micron solution enabled by Waterstons, this historical mining takes just an hour.

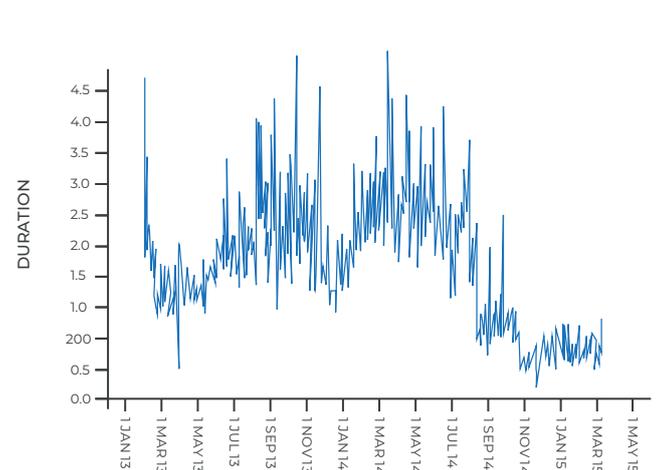
*“The ramifications of this seamless install have been far reaching for PWS trading patterns, from responsiveness of each transaction through to allowing us to add parameterised product navigation, and expand our entire product portfolio, safe in the knowledge that changes will be implemented instantaneously giving our clients the best possible experience.”*

Andrew Buckingham, IT Manager, PWS Ltd.

**AVERAGE E-COMMERCE DELAY**



**SYSTEM PROCESSING PC**



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