

## Customer Success Story: Supporting Data Growth and Faster Processing of Mission-Critical Data with GigaSpaces and SanDisk

Wolters Kluwer Health provides near real-time clinical content, clinical decision support and drug information for use by front-line clinicians at hundreds of hospitals and other healthcare organizations worldwide. The systems relied upon to provide this information must be highly performant, reliable, and scalable.

**Challenge:** Sentri7® is Wolters Kluwer Health's flagship patient surveillance offering, used by clinicians and pharmacy staff in hospitals for clinical decision support. Sentri7 uses a high performance rules engine combined with an in-memory data grid based on XAP for surveillance, intervention, documentation, and reporting.

Whenever IT maintenance on Sentri7 is required, it is necessary to restart the grids, often taking anywhere from 30 minutes to over an hour to complete the process. A similar bottleneck occurs when adding new patient data or rolling out new code.

### Solution

For several years Wolters Kluwer Health has been utilizing GigaSpaces XAP In-Memory Computing platform for its mission-critical Pharmacy OneSource® applications, including Sentri7. Therefore, it turned to GigaSpaces to help solve these database challenges. GigaSpaces recommended XAP MemoryXtend, a combination of XAP and SanDisk ZetaScale software.

The partnership of the two technologies allows in-memory computing datasets to utilize solid-state devices (SSDs) as a memory cache. The solution dramatically improves application performance by eliminating expensive database reads and by parallelizing storage access. Ultimately, it addresses performance

and scalability issues more cost-effectively than by using DRAM alone. XAP uses the ZetaScale™ library for vendor neutral, highly optimized flash memory interaction. When writing an object to the in-memory grid, XAP writes through to flash using the ZetaScale library, circumventing the processor I/O path, and using highly optimized algorithms. Indexes and other object metadata are maintained in RAM, for

the highest possible search performance, and read performance is enhanced by a configurable read cache.

In the case of a data grid reload, the datasets being processed by the XAP In-Memory Data Grid can simply bypass the database reads from the database and load in a massively parallel fashion from local flash eliminating database I/O and network overhead.

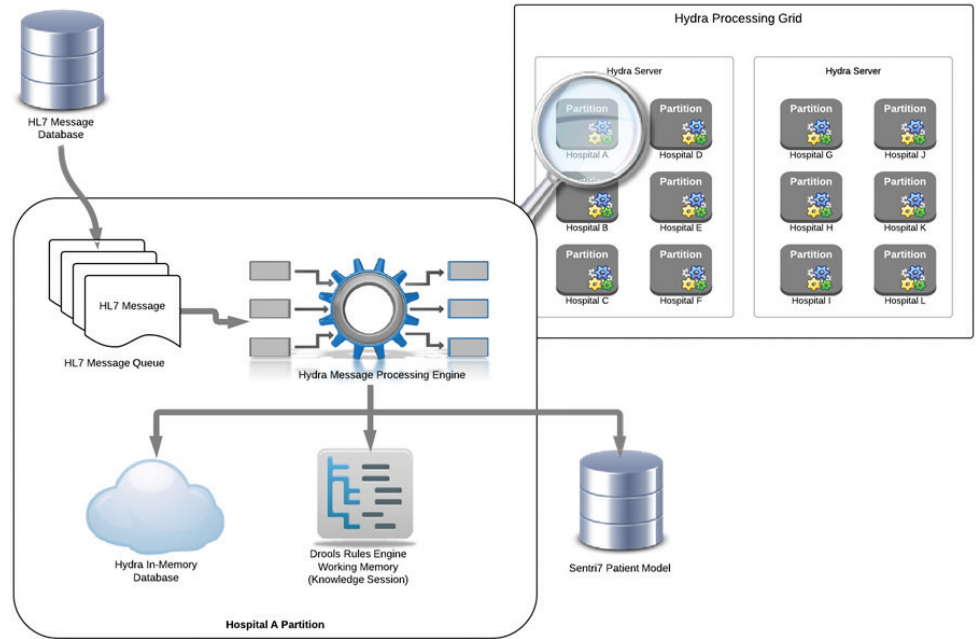
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*"The longer we are down and not processing data, the longer it takes our customers to receive the results they care about. Reducing the time for grid restarts has a hugely positive impact on the business."*

**Paul Kudrle, Team Lead**

The XAP MemoryXtend test environment:

- 1 UCS machine 128 GB of Memory
- 256 GB of SSD
- Centos 6.3
- GigaSpaces XAP 10
- Dataset from 8 hospitals, approx. 80 GB in size



## Results

Using MemoryXtend allowed load times that had previously taken as long as 40 minutes to load up to twenty times faster. The massive, bulk SQL queries used to load data from the database have been eliminated.

## Conclusion

Using XAP MemoryXtend with ZetaScale enables Wolters Kluwer Health to utilize solid-state devices to quickly load more data into the data grid. With this capability, Wolters Kluwer Health can

provide its Senti7 customers with the results they care about at the speed they expect.

## Why This Matters

The healthcare industry is being transformed by the mandated move from paper to electronic medical records (EMR), by government regulatory requirements for compliance with standards, and the shift in the healthcare delivery model from activity-based to an outcomes orientation. To quickly diagnose health

issues and recommend timely patient care, these workloads require timely data-rich alerts and reports that are based on current and historical data. For the data to become useful clinical information, data from multiple data sources must be aggregated, analyzed and presented through dashboards, real-time alerts and historical

data reporting. As the volume of data grows and time-to-decision shrinks, storage bottlenecks must not get in the way. The combination of an In-Memory Data Grid that uses SSD along with ZetaScale software creates an infrastructure to allow for peak performance and high scalability to keep information flowing freely.

For more information, please visit [www.sandisk.com/enterprise/zetascale/](http://www.sandisk.com/enterprise/zetascale/)

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For more information, please visit: <http://www.gigaspace.com/xap-memoryxtend-flash-performance-big-data>  
GigaSpaces Technologies provides software middleware for deployment, management and scaling of mission-critical applications on cloud environments. GigaSpaces leverages direct flash data access to extend its in memory computing platform which gives customers the benefit of ultra-fast data access and processing at lower costs.

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