XAP

The In-Memory Computing Platform

XAP for eCommerce Case Studies

Hundreds of enterprises worldwide use XAP In-Memory Computing to manage their business critical applications, several of which are Fortune 500 retailers.

High Performance Ecommerce Back-End

Top 30 US Retailer, second largest US department store by retail sales, $20B revenue, 1158 stores nationwide

Challenge

- Handling seasonal peak loads, especially back to school and holiday season sales
- Improving their current eCommerce system to handle larger loads
- Streamlining and scaling available inventory process, dynamic pricing, promotions processing and business analytics
- Establishing a transitional architecture that allows continuous improvements and supports 30% annual growth
- Reducing the hardware footprint with virtualization and position the platform for the cloud

Solution

GigaSpaces XAP provides:

- A scalable , elastic, in-memory-based single source of record fabric for inventory information, powering their omni-channel efforts
- Webstore order processing - queues the orders for 5 minutes to allow customer or call center to cancel the order before proceeding to fulfillment
- The real-time inventory is decoupled from the eCommerce platform, allowing the organization to move to a new eCommerce platform (ATG) without any major changes
- Pricing (aka TVS “Total Value System”): 1.8TB Data grid, backed by HBase/Hadoop. Price forecasting from business application in Marketing

Results

* The system performs 500,000 business transactions every day (both on-line store and brick & mortar stores).
* 70% Revenue growth every year on Cyber Monday since implementation of XAP in 2010.

Real-Time Ecommerce Inventory

Top 100 US Retailer with 300 stores and online presence, $4.1 Billion in revenue, 50% growth every year

Challenge

The organization had several challenges to overcome, including:

- Maintaining transactional integrity for their real-time inventory
- Scaling their web tier cache
- Establishing a multi-data center set up
- Facilitating cloud-based deployment
- Creating reliable, fully tolerant and scalable HTTP Session Sharing
- Moving away from a legacy eCommerce platform (Blue Martini) running on legacy, proprietary hardware into commodity hardware and latest modern eCommerce platform (ATG , Hybris)

Solution

Implementation of XAP delivered:

- Multi-tenant, grid based, cloud oriented inventory
- Modern in-memory compute-based implementation for inventory and catalog management that is decoupled from the eCommerce platform, allowing the organization to move to a new eCommerce platform without any major changes
- Zero impact of inventory and catalog activity on frontend web layer
- Simple integration of new real-time inventory with existing eCommerce platform

Results

* Low latency, even on peak load (50,000 requests per second from web tier), sustaining reliable and scalable eComm platform delivering excellent user experience
* No failures observed during holiday season

Omni-Channel Enablement

This top 100 TV shopping network grosses $8.6 Billion annually with broadcast locations throughout the US, Europe and APAC.

Challenge

- Establish seamless shopping experience between TV and website/mobile.
- Scale back-end systems to withstand multiple daily peak traffic events (TV and online promotion events).
- Integrate all enterprise commerce data sources using global unified real-time data fabric.
- Control the increasing hardware footprint and expensive mainframe access for different eCommerce systems.

Solution

- Utilize XAP to implement a universal, global, real-time data access API layer that serves website, mobile and back-end systems.
- The system is able to withstand peak volume traffic with no downtime and negligible compute utilization.
- Use XAP to implement a global, real-time integration platform for both legacy and modern systems across the enterprise saving expensive mainframe data access time and MIPS.
- Able to deploy on bare metal hardware as well as cloud with no changes.

Results

* Low latency, even on peak load (50,000 requests per second from web tier), sustaining reliable and scalable eComm platform delivering excellent user experience
* No failures observed during holiday season