



SHOP AT HOME NETWORK

BUILDING THE DIGITAL MARKETPLACE

HIGHLIGHTS

Company

Shop At Home Network

Industry/Market

Retail

Applications

- Personalized e-commerce
- Enhanced Web Interactive Services
- Customer Relationship Management

Solution Requirements

- Create new shopping medium that leverages existing brand, adding convenience and intimacy
- Provide personalized web shopping experience
- Build e-commerce infrastructure that readily scales with traffic, supports "always-on" operation, and easily integrates with core enterprise transaction systems

Key Solution Components

- BroadVision Retail Commerce 4.1
- Oracle Applications 11i (release 11.05)
- Retek (retail CRM)
- iChat (on-line Internet chat)
- Oracle database 8.0.5
- Veritas FirstWatch 2.2.5
- Netscape Enterprise Server 3.61 (webserver)
- Quicktime 4.0 (streaming video)
- PureBroadcasting (ASP for streaming live video broadcast)
- Two 12-way Sun Enterprise 5500 Servers
- Six 4-way Sun Enterprise 450 Servers
- Two 2-way Sun Enterprise 250 Servers
- One 6-way Sun Enterprise 4500 Server
- Solaris 2.6 Operating Environment
- Systems integration by iXL

Business Results

- collectibles.com surpasses \$1 million monthly sales mark within 7 months of launch
- Sun/Oracle/BroadVision team delivers scalable, proven solution for future growth
- Shop At Home Network poised to take advantage of future convergence of digital media

"We were looking to grow the business by a factor of ten to over 1 million orders per day. We were building for substantial growth on the network side, and we did it using a total greenfield approach at a brand new site. We knew...that our legacy system would not support the traffic that we were expecting to generate on-line. Everything pointed to the Sun platform. At the time, Oracle applications were only certified on Sun, and Sun was the development platform for both Oracle and BroadVision. As we built the basic architecture, the support from Sun, Oracle, and BroadVision was very smooth. They worked very well as a team."

Bob Miller

*Vice President of Enterprise Technology
Shop At Home Network and collectibles.com*

The retailing of collectibles is a fragmented industry, comprised of many small mom-and-pop retailers and cataloguers. Reaching over 60 million households nationwide, Shop At Home Inc. has become one of the best-known names in media retailing. As the nation's 13th largest television broadcaster, Shop At Home Inc. operates stations in six of the nation's largest metropolitan areas and boasts over 400 cable and satellite affiliates coast-to-coast.

When the network moved to its state-of-the-art digital production facilities outside Nashville, it added yet another powerful medium to the mix: the Internet. On November 12, 1999, Shop At Home, Inc. launched collectibles.com,SM as part of its strategy to leverage the convergence of broadcast television and on-line media. The goal was to extend retailing well past the scheduling limitations of broadcasting.

While planning the move, Shop At Home Inc. concluded that its legacy systems would not support its growth plans. The network looked to the top players in Internet computing to build its next-generation enterprise computing infrastructure: BroadVision Retail Commerce 4.1 and Oracle Financials running on Sun™ Enterprise Servers. Shop At Home's bet on the web was quickly vindicated, with monthly sales topping \$1 million barely seven months after the site's launch.

Digital retailing: The new vision

Over the past decade, Shop At Home Inc. has become one of the acknowledged leaders in on-the-air retailing. With over \$ 200 million revenues, the network has grown at a 30% compound rate over the past three years, with its brand becoming synonymous with home shopping.

Shop At Home Inc.'s move to the web came as part of a major expansion of the core business. "We were looking to grow the business by a factor of ten to over 1 million orders per day," according to Bob Miller, vice president of enterprise technology. "We were building for substantial growth on the network side, and we did it using a total greenfield approach," he added.

In 1998, the retailing network relocated, lock stock, and collectible, from Knoxville to new, fully digital, state-of-the-art facilities outside Nashville. The goal was to provide a facility that would enable the transition to a digital shopping environment where broadcasting and the web would converge. collectibles.com went live in shortly after the big move.

The benefits of tapping the Internet were enormous. With collectibles.com, the Shop At Home Network could capitalize on its brand awareness, while providing new opportunities for its customers to connect with the products they want.

collectibles.com was created based on lessons learned from the company's earlier web forays. In place of the static, catalog-driven first-generation web site, collectibles.com promised a rich, personalized experience that added a number of valuable services. For instance, broadcast television shopping programs lock shoppers into broadcast schedules, where items are showcased one by one in sequence. By contrast, on the web, shoppers can stream videos of any product, anytime, using the site as a "virtual VCR."

However, collectibles.com promised more strategic advantages beyond shopper convenience. For instance, the new site added the ability to shop interactively, allowing buyers to search and retrieve the products that they want. Thanks to web chat technologies, shoppers can ask questions or comment about products in real time, or join virtual communities of shoppers with similar interests. Additionally, the intelligence of web commerce applications could allow shoppers to get their own personalized experiences, where products and promotions are displayed based on the shopper's own preferences or purchasing histories.

First impressions

To execute on the vision, the company had to hit the ground running. Shop at Home realized that its daring bet on digital shopping would pay off only if it chose the right applications and a scalable

IT infrastructure that could handle the load. The company realized that the ground rules of retailing on the Internet would be far different from broadcast television, and had to assume long-term growth in order to prevent the new collectibles.com venture from becoming a victim of its own success.

"We didn't have any back metrics to go on," according to chief information officer Wayne Lambert. "All we knew was that our legacy system would not support the traffic that we were expecting to generate on-line," added Miller.

There were several factors that complicated the planning of Shop At Home's new digital commerce infrastructure. For instance, because web shopping patterns are not as well understood as broadcasting, the company couldn't plan its new systems based on past shopping patterns from broadcasting.

Furthermore, although Shop At Home, like most dot coms, is a 24-hour business, that's where the similarity ends. "Our operation is more of a 'true' 24 x 7 environment than most round-the-clock businesses," noted Miller. For instance, with the broadcast side attracting more cable coverage after midnight, transaction loads sometimes peak, rather than dip, in the wee hours of the morning. And, if there is a tie-in between broadcast and the web, the on-line business might see similar unusual activity patterns. Therefore, unlike most dot coms, Shop At Home had to design for high-availability from the outset, because it could not afford to go down, even at 3 am.

Therefore, the simple goal of leveraging the company's core capabilities to grow the business and open up shop on the web was not as simple as it sounded. Shop At Home and collectibles.com needed experienced solution and platform providers that could help make the digital shopping vision a reality.

The infrastructure behind the vision

Shop At Home conducted an in-depth search to identify the right combination of enterprise solutions, e-commerce functionality, and platform. Because of the company's ambitious growth plans, it required a new enterprise business system that was scalable enough to handle the load, yet open enough to allow Shop At Home the flexibility to choose the best e-commerce engine for the task. It required a platform infrastructure that would keep the business open at all times.

Finally, because Shop At Home's transition was based on a vision of broadcast and web convergence, it required solutions and platforms that were designed for the Internet.

After a detailed evaluation, Shop At Home chose to work with the leaders in e-commerce. They selected Oracle Financials 11i to provide the core back end transaction system because of its proven openness, scalability and web technology direction. Additionally, Shop At Home implemented High-Touch, Oracle's new customer management package.

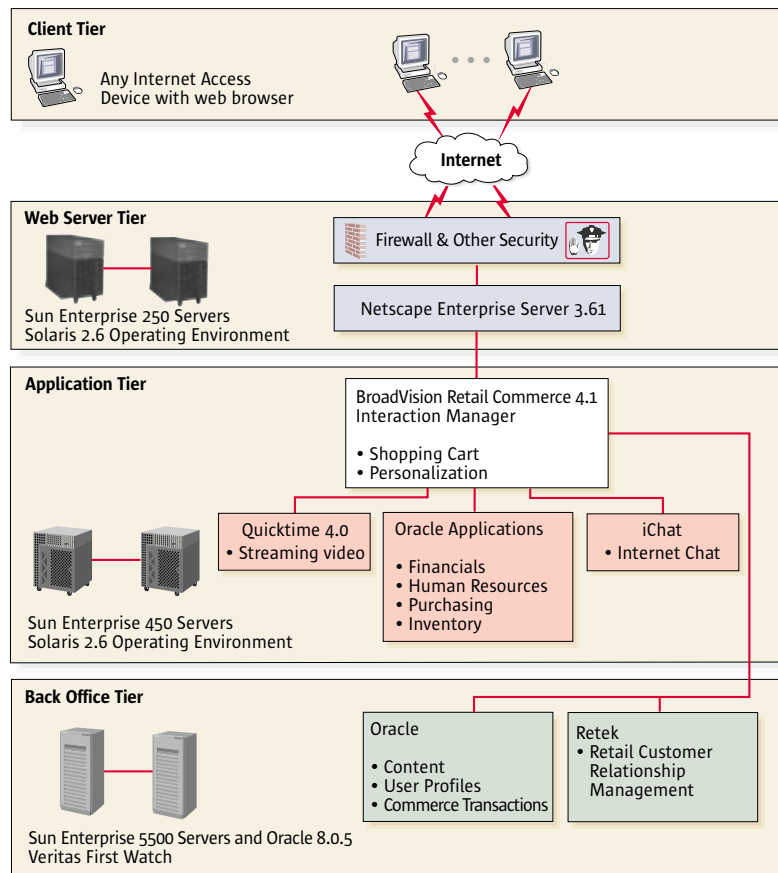
For the e-commerce engine, they chose BroadVision Retail Commerce 4.1, a personalized e-business application, ranked number one by International Data Corp. The selection of BroadVision was driven by several factors. First, the application had to deliver the right functionality to support the network's ambitious on-line-commerce plans that included a feature that is unusual for web shopping: the Dynamic Persistent Shopping Cart, which provides collectibles.com customers a convenient and customer friendly shopping cart that stays on the screen while the user is navigating the site and adding products to the cart. BroadVision's product will also enable collectibles.com to offer dynamic personal and product home pages as well as targeted offers with personalization.

Additionally, Shop At Home required a solution with proven ease of integration, with Oracle enterprise applications. The openness and flexibility of BroadVision helped the company meet its aggressive timeframe as well as its strategy of leadership in customer service.

Finally, the on-line commerce platform had to have proven scalability, supporting high volumes of transactions, page views and users. Given Shop At Home's ambitious plans to promote collectibles.com through its own on-the-air programming, along with targeted advertising and PR promotional campaigns, the network expected web site usage to soar as it grew better known. In choosing BroadVision Retail Commerce 4.1, Shop At Home implemented an e-commerce suite with a proven track record at over 500 B2B and B2C e-commerce sites worldwide.

"With BroadVision as the power behind collectibles.com, we were able to build a feature-rich commerce site tightly integrated with our existing fulfillment and distribution infrastructure and

Shop at Home Site Level Overview



new enterprise systems," said Tim Engle, president of collectibles.com. "BroadVision's one-to-one personalization technology will allow us to use customer profiling to offer a state-of-the-art, personalized, collectibles commerce site for each of our customers," he added.

Why Sun?

When it came to platform selection, the choice proved easy. "We wanted a system that could scale," said Lambert, who added, "We wanted an architecture in place where we could just drop in a new server and an (BroadVision Retail Commerce 4.1) Interaction Manager to build a system that could eventually go to a million orders per day. That's when we began looking at Sun."

Added Miller, "Everything pointed to the Sun platform. At the time, Oracle applications (11.05) were only certified on Sun, and Sun was the development platform for both Oracle and BroadVision."

Initially, Shop At Home planned to go live with dual 8-processor Sun™ Enterprise 5500 Servers, clustered in high-availability configuration, with Veritas FirstWatch for automatic failover, as the

database servers. Additionally, a half-dozen, 4-processor Sun Enterprise 450 Servers were deployed for application servers, two dual-processor Sun Enterprise 250 Servers were dedicated as web servers, while a 6-processor Sun Enterprise 4500 Server was used as the testbed system.

Significantly, the scalability of the Sun Enterprise Server and Solaris™ Operating Environment was put to the test even before the site was launched, according to Lambert. Just before the site went live in November 1999, Shop At Home's testing proved that its estimates for web transaction loads were too conservative. At that point, they increased the size of the database servers from eight to 12 processors. "I didn't have any major concerns about that," said Lambert, noting that, "one of the reasons we went with Sun was for the sheer scalability and ease of upgrade."

Going live

collectibles.com was launched in November 1999 with thousands of SKUs across various collectible categories. The BroadVision application is rich with the profiling and dynamic marketing features that collectibles.com needed. It is also fully integrated with backend Oracle systems, the Retek customer relationship management application, and an Integrated Voice Response package from Aspect.

Today, the site offers dynamic content and targeted offers; on-line chat with program hosts (via the iChat system), integrated voice response (IVR), real-time LivePerson technology for faster, more personalized customer service, and dynamic, product-driven video presentations on demand. Furthermore, the site provides 360-degree visuals for certain products, allowing rotating three-dimensional product images.

The site has more than met expectations. Over the past year, site traffic levels grew, averaging increases of 20% month-to-month. As for sales, collectibles.com passed the \$1 million monthly sales mark in June 2000, just over a half-year after being launched.

According to ratings conducted by Keynote, the leading web performance assessment service, collectibles.com has met its goals of delivering 8-10 second response speeds 70% of the time. Lambert credits the results to a system architecture that accommodated growth. "The system was built to handle upgrades," he said, adding, "We've built levels of redundancy which let us do upgrades without taking the system offline."

In the coming year, that will be put to the test, as collectibles.com strives to cut average response times down to 5 seconds, and launches a totally rewritten, second edition of its site which will offer features including improved navigation, electronic coupons, advanced search engines, live audio and video chats, enhanced video streaming, business-to-consumer auction capabilities, along with a gift registry. Additionally, collectibles.com plans to add statistical modeling and analysis on consumer purchase behavior to help sharpen the site's content and product selection.

Shop At Home credits its solution providers with helping it navigate the e-commerce transition. They teamed with system integrator and Web services firm iXL to build the site, while working closely with Sun, BroadVision, and Oracle to size and configure the application and server infrastructure. According to Miller, it proved a solid combination. "As we built the basic architecture, the support from Sun, Oracle, and BroadVision was very smooth. They worked very well as a team," he said.

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