Accent on the Future: Accenture Web Site Unveils a New Identity
Microsoft Software, Service Offerings Power Largest Ever Corporate Re-branding Effort

By Aaron Halabe

Speed may kill on the highway, but it's a vital business attribute that is considered the lifeblood of a responsive Information Technology environment.

Just ask the Web team at Accenture—formally know as Andersen Consulting, which recently completed what may be the quickest and largest corporate re-branding effort the business world has ever seen.

After separating from its parent company, Accenture met a legally binding requirement to unveil its new Web site and to begin using its new brand identity.

In a mere three months, the firm redesigned its entire Web architecture, replacing competing technologies with Microsoft platform products and tools, including Windows 2000 Advanced Server, Commerce Server 2000, SQL Server 2000, and Internet Information Services.

Accenture used the powerful and reliable capabilities of these products right out of the box to quickly and efficiently unveil its corporate Web site. The Microsoft software required only minor fine-tuning adjustments to help power the site's 5,500 content pages, all of which were converted from HTML to XML.

Accenture and its Web development partners converted the content using XMetaL, and employed the Distributed Internet Applications Architecture—Windows DNA 2000—the Microsoft platform for building secure, reliable, and highly scalable solutions.

Despite the tight timeframe of the conversion project, Microsoft technology enabled Accenture to embark on the ambitious project without having to cut corners, sacrifice performance, or modify any of the site's previous capabilities.

The result, said Accenture project manager Kristen Lorenzen, is a low maintenance, highly reliable and scalable site that positions her firm well for future Web services such as personalization and localization.

The new environment incorporates:

- 6 hardware load balanced Compaq DL 580 Web servers running Internet Information Services on the front-end. Each incorporate 4 gigabytes of RAM, 4 Pentium 700 megahertz CPUs, 1 megabyte of level 2 cache, 1 gigabyte network interface card (NIC) per server, and 1 gigabyte network fiber card.
- 2 Search Servers with the same configuration described above.
- 2 Compaq 8500 Active Access-clustered SQL Servers that each incorporate 4 gigabytes of RAM, a Pentium 700 megahertz CPU, and 2 megabytes of level 2 cache.

Three Months, Three Words: Speed, Speed, Speed
To embark on such an ambitious, time critical project, Accenture staffers adhered to a strict deployment schedule:

> **October**: Ordered hardware, assessed technical environments, designed and developed prototypes of key areas of the site, and began load testing.
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> **November**: Converted all existing HTML content to XML and built out all of the forms processing and customer back-end processing leveraging SQL Server 2000 and Commerce Server 2000. Accenture also took advantage of Commerce Server membership services capabilities to recreate more than 40 feedback, survey, registration, and alliance forms from the old site.
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> **December**: Continued testing and began preparations for system rollover.

"We recognized that this was a very aggressive timeline, so halfway into the project we made a go-no-go decision," Lorenzen said. "We had a legal reason to make sure that…we had a new name and visual identity out there with the new architecture. That deadline could not slip."

Capacity planning took center stage during the initial design process. For its capacity planning benchmark, Accenture decided upon 1.8 million page hits over a 24-hour period—the company's previous high-water mark.

The staff took a conservative approach in load testing the site, ratcheting up the load to 1.8 million page hits per hour. Lorenzen said the Microsoft platform "performed admirably" during testing, which was done continually throughout the 3-month development and migration project.

Accenture used new capacity testing tools in Visual Studio.NET and the capabilities of Site Server 3.0 to perform a log analysis of approximately two months of historical data from the old site.

Additionally, they wanted to ensure that their NICs were no more than 50 percent utilized during normal traffic periods, so the site would be prepared for periods of heavy usage.

Accenture set up a sort of private LAN to do performance testing. It provided the test lab with its own 100-megabit backbone, so the 4 test machines—both desktop and laptop—were not affected by local traffic on the site. Developers performed additional testing on local machines, and personnel at the company's training facility outside of Chicago used a prototype of the site to perform usability testing.

To ensure streamlined processing, Accenture's IT professionals closely monitored event logs, checked the site's many active threads, and evaluated performance hits involving memory usage and XML and XSL caching.

With all six servers up and running, Accenture is now getting approximately 700 page requests per second, despite the fact that users were accessing XML pages, which typically involve more of an overhead toll on Web servers than traditional HTML pages.

Although Accenture is currently using an external ASP solution to track Web site usage, they use Commerce Server Web tracking functions as backup technology. Once the product is tuned to the company's needs, the firm will use Commerce Server as the primary tool for deriving Web usage data and generating reports.

Microsoft Example Proves High Availability

To prove the availability of the Windows 2000-based platform, Lorenzen said Accenture began testing production level volumes from day one to make sure that the site would scale. "We had a real comfort level going into that go-no-go decision that it was going to be able to handle the production volumes we expected."

Because Accenture modeled their architectural design after microsoft.com, Lorenzen said project participants were confident that the platform would be successful.

"Our primary emphasis was on speed—the ability to deploy our solution quickly," she noted. "Because we had to make a go-no-go decision halfway through the project, we had to have faith in the platform. We had confidence because our foundation was built on a proven architecture, and we knew that since the architecture supports Microsoft—the fourth largest site on the Web—it could support our volume."

In addition to using proven technologies, Accenture also had the advantage of building its site from the ground up, using the firm's development, staging, and production servers throughout the entire testing process.

Big Bang Brings Forth New Web Site

"This was big bang," Lorenzen added. "We turned off all of our other servers and flipped the switch on the new servers midnight January 1 Melbourne time, which was 7 a.m. on the 31st Central Standard Time."

Accenture did not run into any showstoppers. In fact, the firm experienced a 47 percent increase in site traffic after the upgrade.

By starting with a clean architecture based entirely on Microsoft software and by tightly integrating with XML and XSL, Lorenzen said the project team didn't have to make any design compromises because of interoperability concerns with other technologies.

"Throughout the entire process, we didn't have to compromise in any respect and we came out with a nice, clean base architecture even though we had the tight time frame we were managing against."

Accenture also needed to know that the operating system would securely and reliably stay up and running, even if an individual application might have problems.

In addition to employing SQL clustering and a hardware load balancing approach, the firm took advantage of application protection features of Internet Information Services (IIS). IIS provides powerful software capabilities that support Web site creation, configuration, and management, along with other Internet functions. IIS application protection keeps Web applications running separately from the Web server, thus preventing an application from crashing the server.

Due to the compressed timeframe of the project, Accenture uses scripts they wrote to manually update and replicate applications across the cluster. In the future, however, the firm is looking to Commerce Server to simplify this task.

One of the minor tuning adjustments Accenture made was to adjust IIS process isolation settings to low. This improved performance and maximized processor use for the active content the site runs. The risk is that a single misbehaving application could bring down the Web server. However, given the confidence Accenture has in its applications, the company views the performance versus security tradeoff an appropriate and workable one.

Accenture made extensive use of Windows 2000 Terminal Services to administer and debug the site. Terminal Services allows Accenture to remotely make system adjustments based on security issues and deploy applications from a single server. This allows developers in Manila, for example, to access and use tools such as Visual Studio. Lorenzen says this distributed approach saves hardware, software and support service costs.

Beyond the facilities of Windows 2000 and IIS, the Accenture implementation also employed:

- Commerce Server's Business Analytics capabilities, which offer tools to identify trends, analyze data, and take action on information.
- Search services of Site Server 3.0 and Commerce Server 2000.
- SQL Server 2000 at the data tier level to provide back end data repository and analysis capabilities.
- Visual Source Safe for source code management.

"We had confidence that all of the pieces were going to come together," Lorenzen said." That was one of the benefits of using a pure Microsoft solution—their products integrate so well together. So that wasn't a concern for us, unlike previous implementations where we were integrating various vendor products."

Accenture also adopted a number of best practices, which Lorenzen said served them well during the three-month project. These include:

- Leveraging the microsoft.com base architecture, which gave Accenture the confidence that their environment would operate efficiently.
- Starting performance testing from day one.
- Communicating thoroughly with key stakeholders throughout the project via weekly and nightly status meetings to evaluate risks surrounding the XML conversion process and other issues. Worked closely with personnel from Microsoft Consulting Services and with seven outside design agencies, and kept lines of communication open among internal Accenture personnel including the company's 10-member core marketing team, 90+ content owners, and various operations and development teams.
- Setting up an intranet site at the beginning of the project to post and share core documents.

XML and the Future

Businesses are quickly realizing the vast potential of XML data to reshape the way information is presented, used, and shared. Accenture—a name

coined from the terms *accent* and *future*—wanted its site to be a leading edge platform for new and innovative customer offerings.

"Microsoft products integrate well with XML," Lorenzen said. "The platform, along with XML-based content, is going to enable us to more quickly deploy a lot of the capabilities we're looking to build out, because we've separated the content from the design."

In the next fiscal year, Lorenzen said Accenture is looking to add local language support for content and to dynamically generate content based on XML-enabled personalization, profiling, and membership services.

"That's really the focus of our next major release," Lorenzen said. "We're going to be introducing personalization as well as establishing communities in which customers can sign up for various events."

Accenture plans to use a combination of Commerce Server's membership- and authentication-enabling technologies, along with chat, discussion board, and newsletter mailing capabilities.

The firm also uses Commerce Server cookie-processing technologies to track site visits, and records information from the product's form generator in a SQL database to create user profiles for personalization.

Additionally, the firm plans to take advantage of advanced data mining and management reporting capabilities of SQL Server to support ongoing marketing efforts, and will employ Application Center technologies to maintain session states.

Looking forward, the XML implementation will allow Accenture to offer their Web content over multiple platforms, including phones and mobile devices such as personal digital assistants.

Overall, the project was a high-profile proof of concept that showed how successfully Microsoft and Accenture were able to interact—from both a human resources and technology perspective.

Lorenzen said the project "was just a smaller scale representation of the successful partnership that exists between Accenture and Microsoft."