

Position Paper for
The Workshop on Internet-scale Software Technologies (TWIST 2000)

"Organizational and Technical Issues in the Tension Between
Centralized and Decentralized Applications on the Internet"

July 13-14, 2000

Institute for Software Research
University of California, Irvine
Irvine, California, USA

By Alvina Nishimoto

As R&D program manager and technical consultant for ecommerce and e-services solutions on Hewlett-Packard mid-range servers, the majority of the customers have taken a hybrid approach with the centralized approach for the backend application and decentralized approach for the web servers.

These customers are using one of the leading business-to-consumer ecommerce packages from an HP partner, Smith-Gardner. Smith-Gardner has leveraged over 20 years of experience in the mail order and direct marketing industry and has over 300 of the largest direct marketing and ecommerce companies as customers. Their solution provides an integrated platform for managing all sales and service mediums: Internet, retail, call center, catalogs, TV/Radio and wireless devices. In addition, this solution provides dynamic promotional offerings, quick and easy product ordering, superior customer service and streamlined order management and fulfillment.

This centralized approach allows all sales and service mediums to leverage one set of complex business logic and provide application consistency no matter what medium is used. This business logic includes all the processing to not only merchandise and enter the order for the end-customer, but to pull the purchased goods from inventory and ship them to the customer. This approach provides for the best customer buying experience allowing the customer to quickly obtain the goods they have purchased while allowing the vendor to support huge transaction volumes. HP has benchmarked the ability to process 100,000 orders per hour with a typical Smith-Gardner application.

The distributed approach of the web servers allows for the ability to do load balancing and proactively manage peak demand to ensure high quality and reliable web site performance. This management of peak demand also balances the load sent to the centralized backend server and only sends the necessary traffic that result in "real work" being done. The highly scalable backend server can concentrate on the work it is peaked to do, i.e. online transaction processing. This distributed approach also allows the web servers to process more completed transactions and more control over end-customer's quality of experience while visiting a vendor's site.