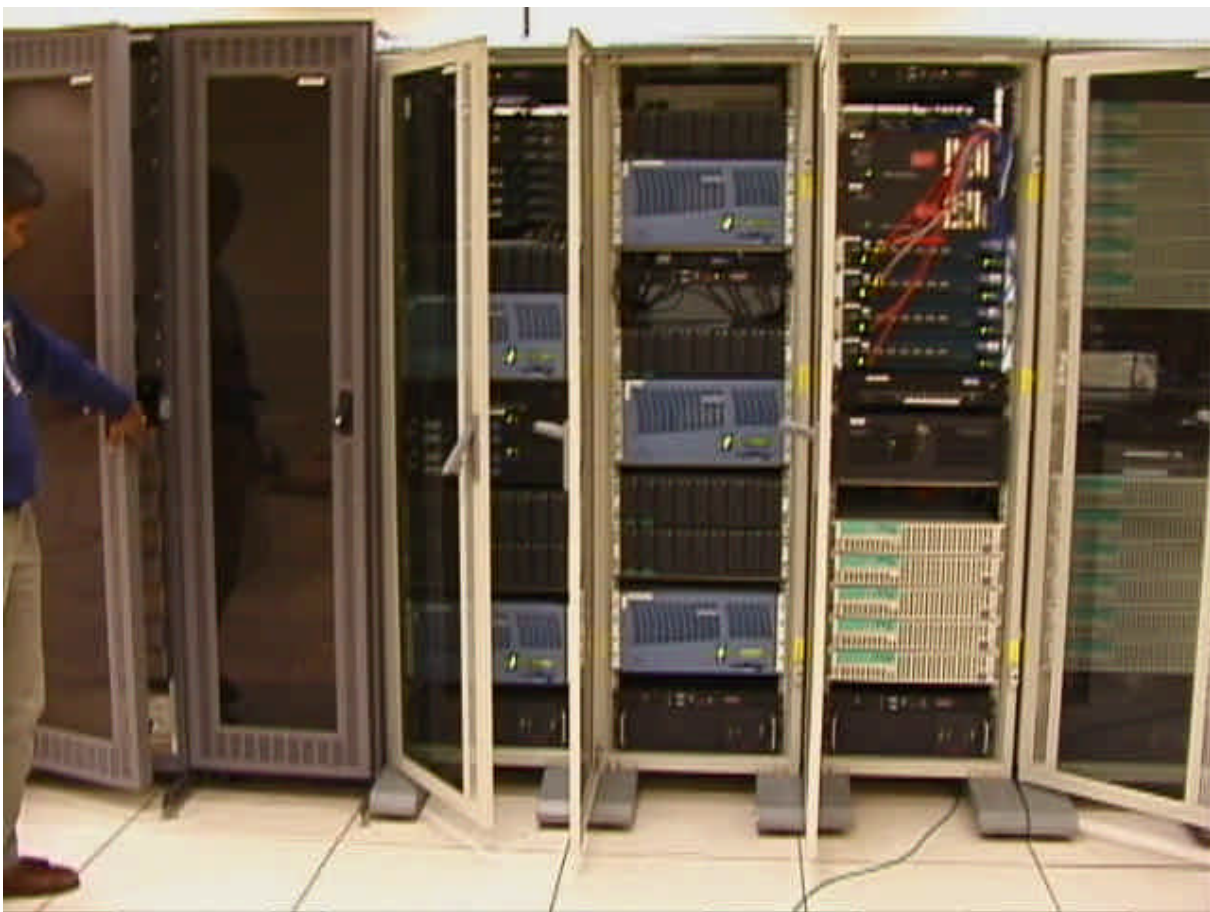




AMROHA ENGINEERING INCORPORATED
5210 CUTTER LANE, RICHMOND, CA 94803
TEL: (510) 223 3179; FAX: (510) 223 8625
WWW.NAQVIGROUP.COM

AEI INTEGRATES HIGH PERFORMANCE SYSTEMS



The system shown above is for a high performance web service. It consists of AEI's multi-processor servers running FreeBSD/Unix and Linux, Sun Microsystems servers with Solaris 8/Unix operating system, and networking hardware including firewalls, intrusion-detection, routers, switches, and hubs from Cisco Systems. Network and server load balancers are from Alteon (now Nortel Networks). All networks are 1000FX, and some are 100TX Ethernet. A total of 11 networks are in use.

This system uses Apache web server on AEI's FreeBSD servers, WebTrends' web-site monitoring on AEI's Linux servers, and Java multi-threaded application software code developed by AEI and

implemented in an Apache JServ (also supported on Apache Tomcat) environment. Application's data management requirements are met with Oracle 8i database running on two Sun 3500 multi-processor servers in a fail-over configuration, with Veritas' fail-over management package for use with Oracle RDBMS, Sun Microsystems' servers, and Network Appliance's network attached storage filers which had snap mirroring of the database active.

All software on the application side was written by AEI programmers. Java 2 Enterprise Environment (J2EE) and tools such as Rational Rose, WebLoad, JProbe, and Oracle development tools were used. Oracle RDBMS' table and index partitioning features were also used.

The front-end of the system consisted of Macromedia Flash based, highly interactive user-sessions that were secure. For this system, AEI provided possibly the only 100% Flash-based shopping cart for the sale of hotel rooms and tickets for public entertainment events at some of the finest hotels and entertainment centers in the United States. User-side graphics work was done by a San Francisco company, with design, guidance and project management from AEI.

Remote management facilities were provided using Lantronix remote server management hardware and a modem, as well as AEI's administration and control software that worked through an SSH tunnel over the Internet.

The system employs the following hardware and software:

AEI Screamer® 2U Rackmount Servers, 2xIntel 933MHz PIII w/FreeBSD 4.x for web services	18
AEI Screamer® Server, 2xIntel 933MHz PIII with Linux for WebTrends web monitoring	1
AEI Screamer® Server, 2xIntel 933MHz PIII with Windows NT Server for an Oracle 8i Datawarehouse	1
Sun 6500 server, 8xUltraSparc CPU, for system backups and general data repository service	1
Sun 3501 servers, 4xUltraSparc, for Oracle 8i RDBMS in a fail-over setup, Veritas fail-over management	2
Sun 220R, 2xUltraSparc, Solaris 8 application servers, IBM MQ Series, LDAP, Apache JServ	6
Network Appliance NetApps 740/720i for data storage (Oracle data also on these servers)	6
Cisco NetRanger IDS Intrusion Detection.....	2
Cisco PIX520 firewall	2
Cisco 3908G, 3924XL network switches	12
Alteon 180e+ (Now Nortel)	4
Exabyte 430 Mammoth 2 Tape library.....	1
Lantronix hardware for remote connectivity and management over high speed modem	1
Raritan KVMs, Compuswitch hardware, for each rack.....	1
APC UPS, per rack	1
Total racks (incl. 2xShark Racks for Sun E3500)	6

The network diagram on the following page shows the networks used in this system. The network configuration shown here is modified in a manner to hide the security aspects for the protection of this system in operation.

AEI provided the project management, system and application architecture, network and database design, complete system integration and implementation, Java programming, testing and deployment services for this system. At its peak, the project deployed a team of 28 system and software engineers.

